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DIGGING WELLS IN BARPALI, ORISSA : AN EXPERIENCE IN RURAL RECONSTRUCTION

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Introduction

IN 1950, the American Friends Service Committee decided to increase its positive efforts towards peace by setting up social and technical assistance in so-called 'under-developed' countries. Accordingly, a project entitled Barpali Village Service started work in Barpali, a village situated in the Bargarh plain of Sambalpur, Orissa. As the Government of Orissa were particularly anxious to encourage the scheme, a site and buildings were provided by them for the Barpali Village Service.

The rural inhabitants of this region are accustomed to tank water. Unfortunately, the same tank is used for drinking, washing utensils, bathing of men and animals, brushing teeth and for many other purposes. People use the high banks for urination and defecation ; and these are often washed down by the rains into the tank.

An attempt was therefore made by the Service to educate the people, and provide a source of drinking water which

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would not be contaminated. In addition there are wells in the villages, either owned by individuals or by communities. Some have also been dug by Government or by the District Board. These are all wide-mouthed, and are easily contaminated when villagers dip vessels for lifting water from them. The water of wells is, however, not always liked by villagers for drinking or cooking purposes. It is a common belief that, in contrast to water from tanks, well water has a different taste, and is not good for preparing *pakhal* which is the common breakfast, made by steeping boiled rice overnight in water. The complaint is that well water tends to give a yellow colour to rice, which also tends to split into pieces. Therefore, although wells have been dug by public bodies, their water is not popularly used for drinking or cooking.

The Barpali Village Service tried to educate the people in the use of uncontaminated water, and designed a well which costs less and in which water was drawn by means of a pump and there was no access by means of the usual rope and bucket. It was also the intention of the Service to encourage villagers to contribute free labour as well as become involved in the planning out of details.

Arrangement with the Government

From October 1953, negotiations were carried on with the Government for keeping some money in reserve for digging wells under the supervision of the Barpali Village Service. The highest authority in the district, namely the District Magistrate and Collector or Deputy Commissioner, divides an allotted sum among the thanas of the district in accordance with the demands received from each. Consequently, members of the B. V. S. kept up correspondence with the district authorities for adequate financial assistance. On 6 November 1953, a letter was written asking for an allocation of Rs. 400 for each of the 12 wells designed. An additional sum of Rs. 1000 was also asked for, and this was to be made available upto an extent of Rs. 200 for each well if special needs arose, such as blasting bed-rock or due to the caving in of earth. This meant a total demand of Rs. 5800. Later on, with two

more wells proposed, the total demand was raised to Rs. 7600. In subsequent letters, the B. V. S. modified its proposal and brought down the demand to a total of Rs. 6000 to be spent at least for the completion of 12 wells.

Early in July 1954, the B. V. S. realized that only 7 wells could be completed before the *khari* season set in in 1954. These were at Sanjhipali, Dalaipali, Dhaurakhanda II, Jhulopali, Patkulunda, Sarandapali and Tulandi. Therefore, a letter was written to the Government on 8 June 1954 indicating the actual position, and also stating that whatever remained of the allotted funds and of the 250 bags of cement entrusted to the B. V. S. would be handed back to the Government for use in 1955 for the completion of the balance of wells designed.

The Work Begins and Initial Difficulties

In December 1953 two wells were started in Tentelpali. The well at Patkulunda was begun in January 1954. Then 6 wells were begun in Badopali, Banjhipali, Biripali, Bhatigaon, Potamunda and Sarandapali. Similar work began in April 1954 at Daleipali, Jhulopali, Kainsir and Tulandi.

Work was everywhere begun on the basis of self-help. In some villages, people organized themselves and contributed free all the labour needed. In others subscriptions were locally raised and hired labourers engaged. In still other villages, part of the labour was contributed, while part was done by employing groups of people on contract. There was only one village in which labour was paid for, not in cash but by issuing food packages to workers as well as their families.

When the digging of wells began after harvest was over, the staff of the B. V. S. went round the villages, and gave technical as well as manual assistance to the villagers engaged in digging their own wells. During these work-trips, the staff mostly either broke stones or did the work of digging.

Although there is good rock available within easy reach of the majority of these villages, villagers were not inclined to gather them for lining the wells. The obvious reason was that villagers generally thought that breaking stone is a very hard job, and is a thing which they cannot themselves do. The

work-trip of the staff members of the B. V. S. was therefore specially designed to teach the villagers through personal example that useful manual labour can and should be performed by all. But this was not always appreciated. In some cases, men of wealth, education and high standing in caste participated in the labour, although normally this would have meant undertaking low forms of labour which might result in being punished by outcasting. Such examples were exceptional, while the majority seemed to feel that an extra load was being put upon them. The B. V. S. people, in their opinion, knew how best to break stones; and some even held that the latter were normally expected to do such work for the upliftment of the villagers. It was *their* concern, not of the villagers in general.

When it came to the staff members of the B. V. S., the programme of educating the villagers into a recognition of the dignity of labour proved to be a very stimulating kind of adventure. The organization of villagers for an appointed task was also equally exciting. But in the hurry to get things done quickly before the next season of agricultural operation set in, there was a lack of uniformity of procedure. As problems arose, they were tackled without proper consultation or co-ordination, until it was realized the hard way that a pre-planned policy of administration and implementation, coupled with a reasonable degree of elasticity, is necessary for the success of a project of the kind described above. More thought, more exchange of experiences would have proved valuable; but this was often lost sight of within the involvement of urgent action. As a matter of fact, as workers were mostly left free to deal with problems in their own way, and with little communication between themselves, and little awareness of what each was doing in respect of the whole picture, it sometimes led to contradictory steps and even the creation of partial misunderstanding among villagers. That led to failure rather than to success.

Let us illustrate this with one concrete example. The villagers in general were given to understand through Village Workers posted in the region by the B. V. S. that the Govern-

ment had sanctioned a sum of Rs. 400 for each well. This amount of Rs. 400 is not sufficient for a well unless there is enough contribution of free labour by the people in works such as digging, hauling materials, etc. The question as to how this money was to be handed over to the villagers and at what point, was not made sufficiently clear to the villagers in the beginning nor did the staff pre-decide the procedure, but it was left to the day when the money finally arrived. The villagers, on the one hand, and with them some of the Village Workers posted by the Project, were under the impression that the total sum would be handed over to the village well-committees in cash, when these committees would be held responsible for the completion of the well. The staff, on the other hand, felt that there was too much danger of wrong use of money and decided not to give cash but materials like cement, etc. It did this because of experience in the programme the year before when cash had been given to a village committee which used this money for payment of the digging, i.e. the work which is supposed to have been given free of cost. Also there was always the possibility of the money being used for some other village construction. However, this decision was not pronounced clearly in the beginning of the programme. It evolved out of individual thinking, and was, at first, not unanimously accepted.

When the money finally arrived, it was handed over to the B. V. S. for further distribution. The B. V. S. prepared an agreement which was to be signed by the villagers, and materials were stored on B. V. S. grounds. At this point, various misunderstandings and misinterpretations suddenly came into focus. Instead of receiving Rs. 400 the villagers found themselves confronted by an agreement which was to be signed, and which even then would not give them ready cash but only materials. As they had thought that the old practice of issuing money to committees would be followed, and as they had also thought that the Government would take care of the lining as in previous cases, this policy was for them a complete change, almost a betrayal, especially as very little in the talks with the staff had prepared them for this course. Even the

Village Workers felt discouraged and disagreed inwardly with what they looked upon as a new policy. In almost all construction centres the work slowed down and villagers expressed reluctance to dig any further.

The agreement which was to be signed by all villagers expecting material aid in their work was as follows :

WELL AGREEMENT

May 1954

We, the Well Construction Committee of P. S. Barpali, District Sambalpur, are engaged in constructing a public well on a self-help basis for use by all villagers.

We agree that this well will not be less than 5 feet in diameter. We agree that this well will not be less than 30 feet in depth unless over 10 feet is accumulated in 24 hours at a lesser depth on May 1.

We agree to dig up to 40 feet in depth to secure adequate standing water. At 40 feet depth 6 feet of standing water in the month of May is to be considered adequate, but unless there is 10 feet of water at a lesser depth, it is not adequate.

We agree to line the well with stone (brick).

We undertake to dig the well, (break the stone), collect sand and stones, (supply necessary bricks at the site), bail out the well, find and assist the mason on a voluntary basis.

We will expect to receive from the Government through the American Friends Service Committee, cement for lining the well, making the parapet and platform, eight lengths of reinforced steel, rope suitable for lowering materials during the lining process, and payment for the mason at the rate of Rs. 2 per foot, and an additional Rs. 15 for the platform, and an emergency fund of Rs. 50.

We agree to utilize all the materials and money we receive for the construction of the well, and not use it otherwise.

We agree not to call upon the Government nor the A. F. S. C. for further funds. Recognising that it is impossible to foresee in advance whether solid rock will be encountered, and at what depth, we may need to call upon the A. F. S. C. for advice, and, if mutually agreed, blasting.

We agree that unless we complete the construction of the well by July 1955, we will refund the entire advances received by us.

*Cement and mason for ring, iron for steps, a pulley, will also be provided.

Signed.....

Signed.....

Some of the villagers signed the contract while others did not. Specifically, Jhulopali, Banjhipali, Daleipali, Tulandi, Patkulunda and Dhaurakhanda II accepted the new terms and agreed whole-heartedly to complete the wells according to terms; whereas Sarandapali, Satalma, Badapali, Bisipali did not accept it. So far as Sarandapali and Satalma are concerned, the people of the two villages decided not to accept any aid from the Project for the well programme. They did not sign the agreement and undertook to complete the wells out of their village fund and with free labour. Bisipali received less attention by the Workers than any other well, and Badopali failed mainly because of the lack of understanding on the part of the villagers of the object of the B. V. S., and also because they tended wrongly to identify this organization with the Government. They tended to think that it was their part to dig the well and the Government's, i.e. the B. V. S.'s duty to do the lining.

The agreement therefore came to them as a shock, as they were expected under it to undertake the work of lining the wells themselves. Moreover, the relationship of the Harijans

with the upper castes was not friendly, and there was likely to be no co-operation between the two.

Progress and Signs of Hope

The Barpali Village Service sent an application to the Government for permission to store dynamite long before hard bed-rock had been encountered anywhere in the wells. But due to various causes, no permission came in time. Well-digging therefore came to a standstill in Tentelpali, Kainsir, Retamunda and Bhatigaon when hard rock was struck. Then villagers had accepted the terms of the agreement, and were indeed eager to do their best. But there was no way of helping them under the circumstances.

Indeed, the keenness to work for wells was equally evident in another village, namely the Harijan ward of Tulandi. Here, the Harijans were willing but too poor to contribute free labour, for then they were likely to starve. It was therefore decided to supply the labourers as well as their families with rations of rice and pulses while the work went on. And this proved to be eminently satisfactory.

The villages where work was completed in 1954 can be classified into two categories : (a) those in which all work was done by villagers, namely Satalma and Sarandapali ; (b) those in which work was completed with aid advanced, namely Jhulopali, Patkulunda, Tulandi, Bondhumunda, Banjhipali, Daleipali, Dhaurakhanda I (1 well). In the following villages work remained incomplete due to one reason or another, and it was expected that it would be completed in the following free period after harvest : Badopali, Kainsir, Bhatigaon, Retamunda, Bisipali, Tentelpali (2 wells), Dhaurakhanda (1 well).

Happenings in Some Villages :

Incentives & Motivations

In course of organization, the Village Workers, or the B. V. S. staff generally, sometimes came across certain experiences which may be worthwhile recording at the present stage. In several villages work was either promoted or impeded, not on account of official measures or the efficiency or

otherwise of the B. V. S., but due to internal causes lying within the framework of personal relationships within the village itself. It will now be our purpose to deal with some of them by way of illustration before passing on to an account of the way in which villagers responded to the well-programme by organizing themselves.

We shall present the account in terms of the villages themselves.

Satalma and Dhaurakhanda

There is no scarcity of drinking water in Satalma or Dhaurakhanda as in the other villages. Yet, the residents of Satalma dug a well for drinking water for their cattle, for washing utensils, also to serve as a reserve of water in case of fire which is not infrequent in this part of the country where houses are thatched with paddy straw.

In Dhaurakhanda, two village factions competed with one another in digging wells, and more particularly in order to secure the benefit of Government aid for such work. A meeting attended by about a hundred villagers was held on 29 March 1954. Some members of the B. V. S. were also present. The two parties in the village felt in common that the village needed a small house where the Stockman could be housed. But as money for digging wells was available, both competed with one another, perhaps to gain more popularity among the villagers in general.

It may be mentioned here that the Village Worker in Dhaurakhanda secured the support of one local enthusiast in the programme of digging a well.

Banjhipali and Jhulopali

Although these two villages lay outside the scope of the B. V. S., the inhabitants came of their own accord when they realized what was going on.

Badopali

The Harijan labourers of this village used to come to Kumbhari every day for earthwork. One day they happened to meet the Village Worker of Kumbhari who belongs to their

caste. They related to him how they, and particularly their womenfolk were harassed by upper caste people when they tried to use the village tank, and therefore their intention was to build a well for themselves.

Sarandapali

At Sarandapali the villagers had already started building for a Middle English School and also a temple. They thought that if they could somehow secure in cash the four hundred rupees promised for a well, this could be utilized for finishing the school building, while the well could later be entirely constructed by means of the village's own endeavour. The Village Worker in this village however succeeded in securing the support of one section of the elders.

Election for the village panchayat took place in May 1954. This encouraged factionalism or party feelings in the village, and for some time the work of digging the well was neglected very much.

Sarandapali has three wards, and nine members contested for the three seats. They can be referred to as A, B, C, D, E, F, G, H and I. Work of the well had been started by the B. V. S. through negotiation with B who took a keen interest in the programme.

The original proposal was to dig three wells in this large village, and it was expected that Government would come forward with a cash aid of Rs. 1200. Eventually, the number was cut down to one; but even the Rs. 400 was to come in the shape of materials instead of cash. This decision was communicated to the villagers just before the campaign for election. Consequently, fish from a neighbouring tank was caught and sold, and the money deposited in the village's collective fund.

Members of an opposite party with which candidate C was connected tried first to use the money for re-excavating the tank. But there were not many to support this proposal. Meanwhile, on account of the election, the tussle for leadership between B and C became accentuated.

The B. V. S. had probably not acted with sufficient wisdom under the circumstances. Any programme of well-digging should have enlisted the support of not one leader like B, but of other inhabitants of the village too. B and C were both practitioners of the *A y u r v e d i c* system of medicine. On account of closer contact, B had been brought within the B. V. S. for training and help in the allopathic system in its medical branch, while C had been virtually overlooked. This created added tension in the village, which resulted in the defeat of the B. V. S.'s endeavours there.

Eventually, however, the villagers did without the help of either the Government or the B. V. S. in regard to their programme of digging a well.

Banjhipali

The picture in Banjhipali was somewhat like the previous one. There are two factions in the village under the leadership of two men of influence. In the election, the member of one of these factions won. As he was in support of well-digging, the other faction instigated villagers to defeat the programme by refusal to co-operate.

The village has indeed a well, but the women prefer to fetch water from a well a mile away because of better taste. An earnest endeavour was made by members of the B. V. S. to bring the two factions together. The Village Worker is a local man, and he argued with the women to induce their husbands to work together for a well. He also tried to establish friendly relations with the leader of the opposition. His friendly and sympathetic manner eventually proved fruitful and work on the well proceeded satisfactorily.

Tulandi

The story of this village has been partly told already. There are 25 families in the ward inhabited by Harijans. All of them, except one, are landless labourers. As they desperately needed a well, they started work ; but as their only subsistence comes from labour, they were supplied with food packages big enough to feed them as well as their families.

Organization of Work

We shall now present an account of how work was organized in the following villages for digging wells : Badopali, Patkulunda, Jhulopali, Tentelpali and Retamunda.

Badopali

Badopali is inhabited by 35 Harijan families. Five families possess no land. Ten have land producing on an average (of three years) 4 maunds of paddy, 16 get between 8 and 16 maunds and 4 between 32 and 48 maunds annually. This hardly provides for even subsistence for the majority, who therefore serve as labourers in other people's fields or work in digging canals connected with the Hirakud Dam Project. One man supplements his earnings by means of weaving. The able-bodied men of the village are traditionally divided into six work-teams. Such a system, it should be remembered, is not a recent innovation, but has been in existence from the distant past. These work-teams can be designated by the letters A, B, C, D, E and F. They consist of 6, 7, 9, 11, 16 and 1 workers respectively. Groups A and C labour in Kumbhari, of which Badopali may be considered to be a ward. C work in digging the canal, while E serve in the village. F is the weaver ; and he works with other groups when his turn comes.

For the purpose of digging the well, all groups conferred together, and decided they would use their traditional organization for distributing work rather than try to raise subscription and employ hired labour. It was arranged that each group would regularly send its members for digging the well according to a schedule prepared every evening in the presence of all villagers. If 2 men of group A had to work on the well, then 3 would be left to work in Kumbhari. The earnings of the 3 would then be distributed evenly among all the 5 families forming group A. And this arrangement would hold good for other groups as well. Only, in the case of those who worked in the canal, it was decided that, instead of sending some of their members to work at the well, they would rather all come together when their turn came.

It was in this way that Badopali organized its labour force in order to dig their well.

Patkulunda

A well-committee consisting of 5 members was made responsible for organization of work. This committee framed work-teams consisting of 4 men in the beginning and 7 later on to work at the well every day. Each family was to send one man for this work. Weavers belonging to the village found it more convenient and economical to work at their looms and hire labourers to represent them when their turn came.

The Committee used a traditional device for making the men work dutifully. There is a custom among Harijan castes here to have sticks sanctified before their special deity. A man who is handed over such a stick as a mark of assignment of a particular duty, performs it with religious devotion. There might also be a lurking fear that in case of non-compliance, he might be met by the wrath of the god. Each workman in this village whose turn came on a certain day to work at the well was handed over such a stick, known as *b i g a d i b a r i*. At the end of his day's task, he relayed it to another man whose turn it was to serve on the following day.

The work was thus carried on until the well had been dug to 27 feet. Then hard rock was struck, and some labourers were hired for additional help.

Jhulopali

This village lies outside the operational range of the B. V. S. Its inhabitants decided of their own accord to dig a well and secure the subsidy promised by the Government. The entire work of digging, lining with broken stones and construction of a parapet with the help of a mason was organized by the villagers on their own account.

The village is inhabited by 32 families of owner-cultivators or *p a r j a s*, 16 small owner-cultivators who also serve on others' land as labourers on an annual contract or *g u t i*, and 6 landless labourers or *s u k b a s i s*. Every day, 11 men were assigned for working at the well; 8 came from among the *parjas*, 2 from the *gutis* and 1 from the *sukbasis*. There

was a cyclic arrangement so that every family took its turn ; and this continued until the work was over.

Tentelpali

The village is inhabited by 120 families. The decision was to dig two wells, and each well was assigned to a group of 60 families.

Each group was divided into 6 sub-groups, and each sub-group had to send 10 men for sharing the work. Every sub-group chose its own leader who was responsible for choosing and sending his men to take their proper turn.

It is interesting that the chief qualification for leadership in both Tentelpali and the village of Kainsir was that the men who were chosen for leadership were prominent in the village's theatrical clubs or during casual musical recitals of a religious kind. Then came others who were known for their persuasive powers in settling disputes, or were known for their impartiality of judgement.

Retamunda

There are 18 Harijan families inhabiting this village, among whom 13 earn their living mainly by weaving while the rest are day-labourers. The weavers raised a subscription of Rs. 5 per family and hired some of the rest to dig wells on a daily wage, or on a system of contract for amount of work done. Occasionally, the weavers also lent a helping hand when they could do so.

The money contributed by the weavers was secured as an advance from wholesale dealers of cloth in Bargarh and Barpali, and was to be paid back by supply of cloth in future.

Some Figures on Relative Contributions

The percentage of contribution from different sources was calculated in the case of three villages, and this is presented below.

Contributor	Village		
Villagers	Patkulunda	Bandhumunda	Daleipali
Harijan	51.7	x	x
High Caste	9.7	52.4	50.8
Government	34.8	45.3	38.3
B. V. S. (in labour)	3.8	2.3	10.9

Lessons Learnt

Using man-power

One of the important lessons learnt is that work under contract is less costly than voluntary labour. Such labour, organized by the people themselves is not so efficient and takes more time : the output of work per man is less than under contract. Therefore, wells under a self-help programme apparently cost in labour more than otherwise. But the gains in other directions are much more. Such work makes use of time when the villagers are otherwise not very busy ; the mere fact that many people come together, often by settling their internal differences and perform a work of common benefit, is itself a gain whose value should not be measured in terms of money.

In a rich country where the standard of living is far higher than the subsistence level, self-help programmes can be carried out by contributions of money or through taxes. But in India so long as there is untapped, unorganized man-power available, it is perhaps best to give priority to that.

Knowledge of society

Before a programme is actually taken up by those who wish to bring about change, it is of very great importance, at least in India, to understand the social composition of a village : how castes exist and operate, what are the traditional forms of voluntary organization, what is the character of local leadership, the points of divisiveness, and so on. A tactful worker may utilize existing resources, or avoid pitfalls if there happen to be any.

Technical ability

It is very desirable in a work of the kind undertaken by the B. V. S. to have a local expert in building operation as a member of the staff. Most villagers lack technical knowledge about masonry work, or the organization of labour, or even simple accounting. They could be educated if technical personnel know how to do it, and also how to teach.

Education, a major need

No one should be content with the needs as they are dimly felt by the people, but should persuade them to modify standards where they are low.

Education is of major importance not only in showing people how to do things, but also in letting them know in detail when and what activities are expected of them, and what it means in terms of labour and money. An exact picture of activities, stage by stage, is to be given not once but several times before the digging actually begins. Thus they should be told how much labour is involved in digging a well up to 40 feet, breaking stones and hauling them by means of carts or man-power, lining the well with the help of a mason plus the attendant labour, and so on.

An emphasis should always be placed upon the need of collecting lining material and stocking them at site before the digging operation is actually undertaken. Otherwise, people may feel tired after the well has been dug and procrastinate when it comes to securing the material needed for lining ; and thus valuable time may be lost which involves the village in fresh expenses.

Village Workers or visitors interested in the programme should make sure if the well is a felt need to which priority is given by the villagers. Sometimes the latter may wish for a school building or a temple more than a safe well. This can only be ascertained when a kind of intimate, personal relationship has been established with them. Even then, one should think many times before one fixes upon a particular scheme. Help rendered to the villagers in achieving what they want most may be reciprocated by favourable response when it comes to the Village Worker's next best suggestion.

Official agencies and the people

It has been our experience that it is hard for common rural people to believe that Government officials are their friends, and various official departments are meant to help them in need, as well as in raising their standard of life. Officials

cannot often spare the time to sit and chat with the people leisurely or in actually participating in their work. Our feeling has been that there can be an improvement in mutual relationship if officers could spare the time to *work* with the villagers while they are digging a well.

There are also other things which can be done by the Government. Official 'procedures, designed when the rulers were aliens and had to govern with the help of local people, were quite often cluttered with formalities which impede rather than help quick action. Rules are, again, often so inelastic that any step out of the ordinary may not be taken, even if it promises results. Thus in Tulandi and Daleipali, when some money was left over after wells had been dug, the villagers wanted to have a little fun over a ceremony called *pratiṣṭha*, or formal opening of the well. But this completely harmless objective was not permissible under the rules. A possible human touch could have been added to an utilitarian undertaking, but the opportunity was missed.

Propaganda

There can be good propaganda as well as bad. It has been our belief that the story of how villagers have combined in one village, overcome various hurdles on the way, and eventually succeeded, should be written in simple Oriya so that it could be read and understood by the average villager.

Much of what is known as oral literature is written in verse. Such are the stories relating to mythical heroes and the doings of gods and goddesses. It would be worth while using the same medium for publishing achievements in the secular instead of the religious sphere. All stages of a programme may be photographed and projected with suitable comments where possible. Or perhaps one might even experiment with the traditional techniques of story-telling in which professional bards who are also painters carry long rolls of hand-drawn paintings which are unfolded as the story goes along.

PLEA FOR THE STUDY OF PES PHALANGIAL HAIR

HIRENDRA K. RAKSHIT

SINCE Danforth (1921) pointed out the ethnic significance of the presence (or absence) of hair on the middle segment of digits pains have been taken to collect data only on manual digits (middle phalanges) for understanding the genetic behaviour of the trait (Bernstein and Burks 1942, Bernstein 1949 and Kloefer 1946) or for establishing genetic affiliation for ethnic purposes (Boyd and Boyd 1937; 1941a; 1941b; and Sewall 1939). Boyd (1950) has recommended that this trait should be included in routine genetic survey. But the latter group have reported data only on the presence or absence of hair instead of different combination-occurrence of the hair in different digits. Garn and others (Garn 1950; 1951; Garn and Gertler 1951) have shown that the trait is affected by age and sex and also by hormonal balance.

2. In India, a number of papers have been published during recent years on middle phalangeal hair of the finger only. Some investigators (Chopra 1953; Singh and Dutta 1955; Pakrasi and Das 1956 and Mavalwala 1957) have not given due consideration to the age variation of the trait in spite of the early attention drawn to this question by Garn (1951). Ray (1958) has worked among the Juang of Orissa and published combination frequencies for adult males. Kumar (1959) has worked among the Nokte Naga. Büchi and Dutt (1959) have studied the influence of age on the occurrence of hairs on the fingers. Büchi (1959) has published middle phalangeal hair data for the Bengalis.

3. In any case, possibly due to Danforth (1921) himself who collected some material on the middle segment of

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phalanges of pes also, but as he thought that the variation in this case is not of significance for ethnic purposes, later investigators seem to have considered it unnecessary to collect data on the pes. No data are available for pes phalangeal hair excepting Danforth's material on the middle segments.

The present note, however, is intended to point out that the variation in the presence of pes phalangeal hair might be as useful for studies of genetic relationship (and to that extent for understanding the genetic behaviour of the trait) as manual phalangeal hair. I am presenting the pes phalangeal hair data of the Dhurwas collected during January-February, 1959, in favour of the above suggestion.

4. The Dhurwas are a Dravidian-speaking tribe of Bastar. Bastar may be considered as one of those regions of India standing ethnologically isolated for at least the last 400/500 years and, in the language of Grigson (1938), Bastar 'has in fact always been an almost unknown backwater of Indian history'. This group of people are also to be found in the neighbouring tracts of Orissa and Andhra where they are known as Parja or Poroja. At present, they are better known as Dhurwa in Bastar, with a population of 17,568 in Bastar alone according to the Census of India 1931.

5. The analysis of pes phalangeal hair data has been based upon 100 individuals (male) on both the pes. These individuals come from different Dhurwa-dominated villages of Bastar, and belong to different age groups (see appendix, tables A and B). Regarding the method of examination of the toes for phalangeal hair, the following procedure was followed. The toes were first made dirt and dust free by cleaning with a piece of cotton soaked in alcohol and then examined under a hand lens. For better illumination a torch was used.

6. The data presented below are concerned only with the hair in the proximal phalange of the pes. The presence of hair in any toe has been denoted by the toe number itself and 0 stands for absence of hair (thus 10345 means that hair is present on all the proximal phalanges of the pes excepting the 2nd toe). Following the above notation, hair data of the toes in different

combinations have been presented in table 1. The symmetry of presence of hair on the right and left pes may be observed among $\frac{2}{3}$ of the individuals considered. Altogether 14 combinations (taking into account the two pes separately) are observed, though only 4 formulae show high frequencies (12345 ; 12340 ; 12300 ; 10000). The cases of symmetry are also to be found in these four formulae most frequently and include almost 90% of symmetry cases. The most frequent formula, whether taking two pes separately or together (symmetry), in both the cases is 12345.

TABLE 1

Pes proximal phalangeal hair distribution of the Dhurwas

(Adult male)

Combination	Left	Right	Total	Symmetry
12345	41	44	85	39
12340	26	19	45	18
12300	4	9	13	3
12000	2	1	3	—
10000	10	6	16	4
00000	2	6	8	2
10345	2	1	3	...
10340	3	3	6	...
10300	7	3	10	1
12040	...	2	2	...
10040	1	2	3	...
02300	2	1	3	...
00340	...	1	1	—
00300	...	2	2	...
Total	100	100	200	67

7. Out of 14 combinations observed, only in two combinations hair may occur singly, namely 10000 and 00300. Further, there are altogether 4 combinations where hair may occur on the great toe singly or with other toes but without involving the 3rd toe. On the other hand, there are three combinations involving the 3rd toe singly or in association with other toes, but not involving the great toe. In the rest of the combinations

hair occurs both on the 1st and the 3rd toe in association with other toes. The phenomenon has been summarized in table 2.

TABLE 2

Combinations involving the 1st toe (but not the 3rd toe)	Combinations involving the 3rd toe (but not the 1st toe)	Combinations involving both the 1st and 3rd toes	Combination involving neither the 1st nor the 3rd toe
10000 (16)	00300 (2)	10303 (10)	00000 (8)
12000 (3)	02300 (3)	12300 (13)	
10040 (3)	00340 (1)	10340 (6)	
12040 (2)		12340 (45)	
		10345 (3)	
		12345 (85)	

Figures in parenthesis are the frequencies observed among the cases studied.

8. All possible combinations of having (or not having) hair are tabulated in table 3, starting from none of the toes having hair to all the toes having hair.

On the basis of Dhurwa material the conditions of having hair on the toes are summarized below.

- (a) Hair can occur independently on the 1st and the 3rd toe only and presence of hair on other toes is subject to having hair at least either on the 1st or on the 3rd toe.
- (b) The axis of the 1st toe is relatively more powerful both in insitu effect (10000 : 16) as well as in spread effect (12000 : 3, 10040 : 3, 12040 : 2). The spread effect of the 1st toe alone is phenotypically visible up to the 4th toe.
- (c) The axis of the 3rd toe is appreciably weaker both in insitu effect (00300 : 2) as well as in spread effect (02300 : 3, 00340 : 1). The spread effect of the 3rd toe alone is limited within one toe on either side of the 3rd toe.

- (d) The presence of hair on the 5th toe can only result from the conjoint spread effect of the 1st and the 3rd toes.

In the light of the above conditions, if we examine table 3, where 32 probable combinations are noted, the following combinations are to be excluded to satisfy condition (a) :

02000	02040	02045
00040	02005	
00005	00045	

The following combinations are to be excluded to satisfy condition (a) as well as condition (d) :

10005	12005	12045
00305	10045	02345
	02305	
	00345	

All remaining combinations of table 3 actually show frequencies, excepting the following combinations

10305
02340
12305

We may expect the above combinations to occur in the case of larger samples.

TABLE 3

Pes proximal phalangeal hair

(Left-Right combined)

No. of toes affected

None	One	Two	Three	Four	Five
00000 (8)	10000 (16)	12000 (3)	12300 (13)	12840 (45)	12345 (85)
	02000 (0)	10300 (10)	12040 (2)	12305 (0)	
	00300 (2)	10040 (3)	12005 (0)	12045 (0)	
	00040 (0)	10005 (0)	10340 (6)	10345 (3)	
	00005 (0)	02300 (3)	10305 (0)	02345 (0)	
		02040 (0)	10045 (0)		
		02005 (0)	02340 (0)		
		00340 (1)	02305 (0)		
		00305 (0)	02045 (0)		
		00045 (0)	00345 (0)		
(8)	(18)	(20)	(21)	(48)	(85)

Figures in parenthesis are the frequencies observed among the Dhurwas.

9. The number of affected toes taking each pes separately are shown in table 4. The frequency (left and right combined) of none of the toes being affected is only 4.0%. The frequencies of either one or two or even three toes being affected are practically of the same order (9.0%, 10.0%, 10.5%, respectively). But the frequency of 4 toes being affected increases sharply (24%), while the frequency of all the five toes being affected is still higher (42.5%).

TABLE 4

No. of toes having hair simultaneously	Left pes	Right pes	Total	%	Combinations involved
(1)	(2)	(3)	(4)	(5)	(6)
None	2	6	8	4.0	00000
One	10	8	18	9.0	10000 00300
Two	12	8	20	10.0	12000 10300 10040 02300 00340
Three	7	14	21	10.5	12300 10340 12040
Four	28	20	48	24.0	12340 10345
All	41	44	85	42.5	12345

10. So far as the Dhurwa material is concerned, table 5 clearly shows that the great toe is affected, either singly or in

association with other toes more frequently than any other toe. The 3rd toe is also affected quite frequently, but less so than the great toe. The observed frequencies of the 2nd and the 4th toe, however, are not very different. The 5th toe is affected far less frequently than any other toe.

TABLE 5
*Number of affected toes either singly or in association
with the rest of the toes*

	Toe nos.				
	1	2	3	4	5
Left	96	75	85	73	43
Right	90	76	83	72	45
Total	186	151	168	145	88
%	93	75.5	84	72.5	44

The order of having hair on different toes (proximal phalanges) of the Dhurwa material are as follows :

(1) (3) (2) (4) (5)

11. So far as Danforth's White Soldier materials, namely group 1 and group 14 are concerned, the order of having hair on the middle phalange of different toes is as follows :

TABLE 6
*Frequency of toes affected either singly or in association
with other toes (Danforth 1921)*

Group	Toe nos.				Order
	2	3	4	5	
1	43	60	27	2	(3) (2) (4) (5)
14	279	361	84	23	(3) (2) (4) (5)

12. The order of having hair on the proximal and middle phalanges of fingers and toes may be tabulated as follows :

Manus	{	Proximal phalange	(4	3	5)	(2)	(1)	Author's unpublished Bengalee material
		Middle	„	(4)	(3)	(5)	(2) —	All the materials so far reported*
Pes	{	Proximal	„	(1)	(3)	(2)	(4)	(5) Author's Dhurwa material
		Middle	„	—	(3)	(2)	(4)	(5) Danforth's White Soldier material

It is evident that (1) the orders for the manus and the pes are distinctly different and (2) the order is essentially similar for the proximal and middle phalange of the manus (e.g. 4352) and so is the case with the pes (e.g. 3245). It may be pointed out in this connection that the people who have altogether lost middle phalangeal (manus) hair, namely, the Onges (Büchi and Roy 1959), or who are on the way to fast losing hair, namely, the Negroes (Danforth 1921) or the Eskimos (Sewell 1939), should be studied carefully for their proximal phalangeal (manus) hair distribution to ascertain the order of having hair. In such populations, it is expected that the 5th fingers would lose hair more frequently than the 3rd fingers and the latter more frequently than the 4th fingers.

13. Lastly, let me try to state clearly the purpose of the article. The purpose is not so much to present the Dhurwa phalangeal hair data as to note the essential features of the order of having hair on the toes and fingers in their proximal and middle phalanges, and thereby inducing future investigators to collect proximal and middle phalangeal hair data both for the toes and the fingers.

* Excepting Danforth's Negro material.

APPENDIX

TABLE A

Residence of the subjects

S. No.	Name of the village	No of subjects
1	Kamanar	... 18
2	Chhindawara	... 14
3	Marenga	... 10
4	Litirash	... 10
5	Leda	... 7
6	Takwara	... 6
7	Darba	... 6
8	Kakalgur	... 6
9	Marjung	... 6
10	Tongpal	... 1
11	Topar	... 4
12	Chingur	... 3
13	Jamawara	... 2
14	Mongnar	... 2
15	Majhipal	.. 1
16	Karka	... 1
17	Pedawara	... 1
18	Nendra	... 1
19	Jemer	... 1

Note : The first ten villages were visited by the author for collecting pes phalangeal hair data along with anthropometric data.

TABLE B

*Age-group distribution of the subjects**

Age-group	No. of subjects
17—20	... 2
21—25	... 20
26—30	... 27
31—35	... 21
36—40	... 17
41—45	... 6
46—50	... 4
51—55	... 2

Total : 99

* The age of one subject was not noted due to oversight. The subject was, however, above 20 years of age.

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ARTIFICIAL RELATIONSHIPS IN MIDNAPUR

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Introduction

ATTEMPTS have been made in this paper to study different types of formal friendship or relationship prevalent amongst different castes and communities of Midnapur which are occasionally solemnized by religious rites. These friends or ceremonial relations play an important part in social life and have made inter-caste co-operation and social relations more easy and lasting. Inter-caste competition and hostility are consequently toned down to some extent. Such formal relationships are also in vogue in Garbeta and Bankura where they are known as *Istala*, which means an artificial relationship with some one who is not actually a kin.

This paper is mainly based on data obtained from a rather quick field-survey in a few villages, and that too brief, in a part of Midnapur. Naturally, the data may not be considered sufficient for quantitative assessment. But some light is thrown on the ways in which mutual aid is secured in the area. During field-work, it was also seen that certain enshrined local gods and goddesses, their mode of worship and social and religious festivals, etc., play a significant part in connection with the establishment of such artificial relationship.

Types

Table 1 describes the various types of friendships, with references and forms of addresses that are in vogue.

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TABLE 1

Types	Term of Reference	Term of Address
1. Ceremonial friend	(a) Sāngāt, Bandhu or Mitā (b) Makar (c) Gangājal (d) Mahāprasād (e) Sāgarjal (f) Tulsi (g) Phul or Sayā (h) Ābir	Sāngāt, Bandhu or Mitā Makar Gangājal Mahāprasād Sāgarjal Tulsi Phul or Phulsai Ābir
2. Ceremonial Father	Dharma Bābā	Bābā
3. Ceremonial Mother	Dharma Mā	Mā
4. Ceremonial Father-in-law	Dharma Sasur	Babu
5. Ceremonial Son	Dharma Putra or Dikshāputra	(By name)
6. Ceremonial Daughter	Dharma Kanyā	(By name)
7. Ceremonial Son-in-law	Dharma Jāmūi	(By name or) Bābu
8. Ceremonial Brother	Dharma Bhāi	(By name or if elder) Dādā
9. Ceremonial Sister	Dharma Bon	(By name or if elder) Didi
10. Ceremonial Mother's Mother	Dharma Āi	Āi or Didi Mā
11. Ceremonial Sister's Son	Dharma Bhāgne	(By name)
12. Ceremonial Brother's Daughter	Dharma Jhiāri	(By name)

Each term has got some significant meaning which is given below.

Makar

This form of address is used when friendship is solemnized on the day of *M a k a ṛ S a n k r a n t i*, i.e. first day of the month of *Māgh* (Jan.-Feb.). In many places, fairs are held on this occasion and ceremonial bath is taken. Specially in the western tract of Midnapur, the *Tusu Festival* with the immersion of the *Tusu*, i.e. doll, takes place on this day.

Ganesh Digar of Daharpur, a *Lodha* by caste, aged 40, established *Makar* friendship with *Hiru Dolai*, aged 40, who is a *Namashudra* by caste about 10 years ago. Similarly, *Sambu*, a *Munda* of village *Samturangi*, is a *Makar*-friend of *Basani*, a *WEAVER* woman of Daharpur.

Gangajal

This form of friendship is solemnized between two persons going together to take a ceremonial bath in the river *Ganga*. They show respect to the River as witness to their mutual acceptance and sprinkle water on each other's body when they meet.

Bhuban Das of *Handla* village, aged 55, a *WEAVER* by caste, has established *G a n g ā j a l*-friendship with *Bhabatos Dobe* of *Khalinagera*, aged 48, who is *Brahman* by caste. About 12 years ago, they went on a pilgrimage to take a holy bath in the *Ganga*. During the journey, they developed friendship which was ceremonially formalized. According to convention they address each other as *Gangājāl*.

Mahaprasad

The sacred meal of rice offered to the deity *Jagannath* in *Puri* is termed as *M a h ā p r a s ā d*. When friendship takes place at *Puri* between two persons and the sacred food is exchanged between them, they become friends and address each other as *Mahāprasād* whenever they meet.

Biki Dasi, aged 45, a *WEAVER* woman, is *Mahāprasād* to *Kiran Dasi*, aged 45, *Māhishya* woman. Once they went to *Puri* for pilgrimage during the *Car Festival* about 15 years

ago, and their acquaintance during the journey matured into formal friendship at Puri. Sitanath De, an OILMAN has a Mahāprasād friend named Rashbehari Hazra, Mahishya by caste, whose friendship was also established at Puri about 15 years ago. The same form of friendship exists between Manmatha Misra, Brahman, and Amulya De, Kayastha or SCRIBE.

Sagarjal

This type of friendship is established at Sagar, the mouth of the Ganga, where a large fair takes place on the last day of Paush every year. Pitambar Bera, Namashudra, has a Sāgarjal friend named Haladhar Ghorai of the same caste. This friendship was established during the pilgrimage to Sagar last year.

Tulsi

This is another form of friendship established with the exchange of the leaves of the sacred basil, tulsi (*Ocimum sanctum*), on any festive occasion.

Binodini, a Brahman woman, has a Tulsi friend named Niharnalini, an OILMAN-Tili woman. About 25 years ago, they went to a fair during the Car Festival near Jhargram. Friendship developed and they formalized it by exchanging a tulsi leaf on the spot.

Phul or Phul Saya

Such friendship is restricted to women only. Flowers are exchanged between individuals on any festive occasion.

Niharbala Guria, an OILMAN-Tili woman, has a Phul friend named Samunnesha Bibi, a Muslim woman. They were classmates in school. Later on they solemnized this friendship on the day of the Car Festival by exchanging two roses, with an added present of new cloths. Alladini, a Munda girl, has a Phul friend named Parbati, a Santal girl. A few years ago, Parbati went to Alladini's home during a wedding festival. Immediately on meeting, they exchanged flowers with each other as a token of friendship.

Abir

For this type of friendship, ābir, a red, perfumed powder, is exchanged between two individuals as a symbol of acceptance. This is done generally on a festive occasion.

Kshudiram Misra, Brahman, has an Ābir-friend named Abadhut Das, a Vaishnava. They developed intimacy for a long time and since then, during every Holi Festival, they exchange ābir to commemorate their friendship.

Factors of Friendship and The Parties Involved

The writer has studied altogether 52 cases of friendship among members of different castes and communities, out of which, 8 cases are confined to the same caste or community. A man of Kheiri caste, CARPENTER, has a friend from the same caste. Two Brahmans have done so by purchase of land and having a common profession. The Namashudras became 'friends' as a result of close acquaintance during a pilgrimage. Two Mahishya girls accepted each other as friends in their schooldays. Two Kayasthas of the same profession, again, became friends, and six Munda women, in three pairs, similarly established the same kind of relationship when they chanced to meet at a fair.

As regards motives behind the formation of such friendships, these can be classified as follows :

(i) Working together in agriculture or other occupation. Friendship, thus founded, later developed into permanent friendship, usually through ceremonial solemnization.

Ganesh, a Lodha by caste, has established friendship with a Namashudra, both pursuing the same profession, i.e. agriculture. The total number of cases in this category is 18. Here all the persons are male.

(ii) In the next category, 17 cases of friendship have been established amongst people attending fairs in a holiday mood or during festive celebrations. Among these, 11 pairs are female and 6 are male.

(iii) The next important factor influencing friendship is the intimacy established during pilgrimage to holy places. The total number of such cases is 11. Here also all the cases excepting two are male.

(iv) Three cases of friendship of this type were found to have developed from schoolday intimacy. In one case, two Kheiri boys made friends with one another. In 2 other cases, it was between two girls belonging to the Mahishya caste. Of the rest, one belongs to the OILMAN-Tili caste, while her friend is a Muslim girl.

(v) Getting rid of disease and improvement in one's health has been another motive for establishing formal friendship. Two cases of this type are found among 52 cases recorded.

In one case, a Brahman, Lakshminarayan Pahari, aged about 50, has accepted a Hāri, an untouchable, as his friend. The latter is of about the same age. Lakshmi Babu's father first established this type of friendship as he was suffering from a chronic disease, which this Hāri alone could treat and cure. It is said that after a few years Lakshmi Babu recovered from illness.

In a similar case, Kedarnath Ghorai of Pataspur P. S., was very sickly and weak in childhood. His father established 'friendship' with a man of the Kakmara caste named Rakhal Chandra Das when Kedar Babu was only 15 years old. The Kakmaras are a nomadic caste of West Bengal and are considered to be 'uncivilized' and consequently avoided by more advanced people of the locality. After a few years, as Kedar Babu says, he improved very much in health and became 'thrice as much in weight of what he was before'.

(vi) Possession of the same name by two individuals sometimes prompts them to forge friendship with one another, as in the case of one Sitanath Kungar, SCRIBE-Karan and Sitanath De, OILMAN-Tili by caste.

Table 2 gives the details of caste groups with respective sexes and purposes,

TABLE 2

Caste groups with sex and notes

Sl. No.	Caste groups involved	Sex	Note
1	Lodha/Namashudra	M	Of same profession
2	Karan/Sadgop	"	"
3	Brahman/Brahman	"	"
4	Goala/Tili	"	"
5	Karan/Tili	"	"
6	Tili/Santal	"	"
7	Karan/Sadgop	"	"
8	Brahman/Sadgop.	"	"
9	Bagdi/Munda	"	"
10	Munda/Bathuri	"	"
11	Mahato/Munda	"	"
12	Bagdi/Munda	"	"
13	Munda/Santal	"	"
14	Bagdi/Munda	"	"
15	Bagdi/Munda	"	"
16	Kayastha/Kayastha	"	"
17	Munda/Bathuri	"	"
18	Brahman/Munda	"	"
19	Sadgop/Karmakar	F	In festive mood
20	Tanti/Munda	F	"
21	Brahman/Kayastha	M	"
22, 23	Brahman/Tanti	F	"
24	Kayastha/Namashudra	M	"
25, 26, 27	Munda/Munda	F	"
28	Munda/Santal	F	"
29	Rajak/Munda	M	"
30, 31, 32	Brahman/Tili	F	"
33	Brahman/Tili	M	"
34	Brahman/Vaishnav	M	"
35	Mahishya/Kamar	M	"
36	Mahishya/Sadgop	M	During pilgrimage
37	Mahishya/Sadgop	F	"
38, 39, 40	Brahman/Kayastha	M	"
41	Brahman/Tanti	M	"
42	Brahman/Vaishnav	M	"
43	Brahman/Vaishnav	F	"
44	Namashudra/Namashudra	M	"
45, 46	Kayastha/Suvarnabanik	M	"
47	Mahishya/Mahishya	F	School intimacy
48	Tili/Muslim	F	"
49	Kheiri/Kheiri	M	"
50	Brahman/Hari	M	Curing disease
51	Mahishya/Kakmara	M	"
52	Karan/Tili	M	Identical name

Ceremonies

For this type of ceremonial friendship, a few articles are needed, namely, a new wooden bead-necklace and a red cord for the waist, locally called *ghunsi*. When friendship is solemnized, these articles are exchanged between the individuals and the wooden bead-necklace is tied round the neck and the *ghunsi* or cord, round the waist of one by the other. In aristocratic or well-to-do families, new cloths are presented in addition to the 'friend' and these are worn at the time of the ceremony. A few years ago, the writer saw a few instances of the formalities observed in ceremonial friendships at a fair in Amdabad village. There, a temporary fair takes place every year, in which the wooden image of Shri Gauranga is worshipped and arrangements are made for holding *Kirtan* songs.

On that day, people who want to win friends, are brought by a middleman at the fair. In many cases, they belong to the same age-group or their outward features are considered to be alike. Then a wooden bead-necklace and a waist-cord are purchased, and sugar wafers (*bātāsā*) are bought and placed in a new basket for offering before the image. After they have been consecrated, they are scattered (*Harilut*) on the ground with the accompaniment of a recital of the name of God. But before that, mutual exchange of garlands or wooden bead-necklaces and waist-cords are made and these are tied on the person of one by the other.

In the case of Makar friendship, flowers are also exchanged in addition to the above gifts.

In the friendship known as Mahāprasād, sacramental rice from the temple of Jagannath in Puri is exchanged. After that, presents are exchanged between the 'friends'. Vegetables, sweets, fish, etc. are sent on special festive occasions by each to the other's family.

The details of formal or expected behaviour between friends will be discussed later.

Father-Son/Daughter Relationship

Establishment of ceremonial-father relationship is not uncommon among the village people. Table 3 gives the details of a few such cases.

TABLE 3

Ceremonial Father

Sl. No.	Father Caste and age		Son/Daughter Caste and age		
			Sex		
1	Napit	65	Munda	M	50
2	Munda	42	Munda	M	23
3	Bagdi	50	Munda	M	30
4	Tanti	36	Brahman	F	28
5	Lodha	32	Lodha	F	37
6	Kayastha	35	Hari	M	45
7	Kamila	10	Mahishya	M	38

In table 3, it is seen that one Munda has established this type of relationship with another Munda, as the former looked very much like his father. In this case, the father of the latter is dead. A similar case occurred in which a Lodha woman (37) established 'father-daughter' relationship with Ashutosh Kotal, a Lodha, aged 32 years. Here Ashutosh is younger than his accepted ceremonial-daughter. In case no. 6, Pashupati Sil of Bakhrabad has been accepted as ceremonial-father by Suren Ghorai, a Hāri by caste. Hāris are considered to be untouchable. Pashupati belongs to a superior caste. Suren does not hesitate to bow down before him. Another noticeable case is case no. 7, in which, Jagannath Dagra (38) of Amdabad, who is Mahishya by caste, has established ceremonial-fatherhood with Bhanu Kamila (10). Bhanu is the son of a rich man, while Jagannath is very poor. Jagannath addresses Bhanu as his 'father', embraces him and even sometimes carries him to the market on his shoulders. Though poor, he presents his little 'father' with sweets now and then. Jagannath says that Bhanu resembles his dead father in

features. Lakhmipriya, a Brahman widow, has established ceremonial-father relationship with one Rambhar Singh, *WEAVER-Tanti* by caste. As Rambhar resembles her dead father, she addresses him as 'father'. She also washes his dining plates, but does not accept cooked food from him as she is after all a widow.

It is interesting to observe that the death of a ceremonial-father is mourned by the ceremonial 'son' or 'daughter', and the period of mourning is the same as in the case one's real father.

Unlike ceremonial friendship, establishment of such relationship does not necessarily require a festive occasion or a sacred or holy place.

Mother-Son/Daughter Relationship

This is also another important form of ceremonial relationship established by a man or woman with a woman.

Table 4 gives the details of such cases.

TABLE 4

Ceremonial Mother

Sl. No.	Mother		Child		Sex
	Caste	Age	Caste	Age	
1	Bhumij	36	Munda	21	M
2	Munda	42	Munda	30	M
3	Kamar	40	Lodha	30	M
4	Chhutar	42	Brahman	30	M
5	Gandhabanik	60	Brahman	33	M
6	Mahishya	50	Brahman	35	M
7	Mahishya	37	Dhoba	32	F
8	Tili	42	Brahman	28	M
9	Mahishya	46	Mahishya	30	M
10	Mahishya	36	Mahishya	20	F

Out of the ten cases cited above, four Brahmans have established ceremonial-mother relationship with women of various castes, all inferior in status. But the most important

thing about such relationship is that during the Sacred Thread ceremony, the Brahman received help from their 'mothers'. A widow of the SPICE-TRADER or Gandhabanik caste was childless. She accepted Paresch Chakravarty, Brahman, as her son. But this was not a case of legal adoption.

In all these cases, the 'mothers' presented cloth to their ceremonial children after the establishment of this relationship. Moreover, annual present as well as visits are exchanged between them. Death pollution is also observed when the 'mother' dies.

Ceremonial Son

In this type of relationship, a man out of affection accepts someone as a ceremonial-son. This is strikingly different from that of an adopted son in which the Hindus of the locality take a child, if he or she is childless, and feels the necessity of maintaining the continuity of the lineage or for the purposes of bequeathing property through some prescribed ceremonies. Table 5 gives the details of this type of relationship.

TABLE 5
Ceremonial Son

Sl. No.	Son		Parent		Sex
	Caste	Age	Caste	Age	
1	Vaishnava	30	Tili	65	M
2	Mahishya	40	Kayastha	55	M
3	Bagdi	48	Brahman	61	F
4	Mahishya	25	Mahishya	48	M
5	Mahishya	24	Mahishya	52	M
6	Paundra	25	Grahapra	50	M
7	Mahishya	18	Grahapra	26	M
8	Mahishya	19	Brahman	27	M
9	Mahishya	18	Mahishya	28	F

In these 9 cases of relationship, all the 'sons' belong to inferior castes in comparison with those by whom they have been accepted. All the sons are junior in age to their respective ceremonial parents.

Iswar Pal, OILMAN-Tili has established ceremonial-son relationship with Joy Das, because he is childless. He affectionately looks upon Joy Das as his own son. Manotosh Bose, aged 55, SCRIBE-Kayastha by caste, has established ceremonial-son relationship with Rameswar Maity, Mahishya by caste. Manotosh Babu is a Tahsildar and used to come and stay at Rameswar Babu's house for a long time at intervals and this relationship developed in course of time.

Ceremonial Daughter

There are altogether 18 cases of ceremonial-daughter relationship established with women belonging to 5 different castes. The details of the cases have been dealt with in table 6 below.

TABLE 6

Ceremonial Daughter

Sl. No.	Daughter		Parent		Sex
	Caste	Age	Caste	Age	
1	Chhutar	50	Mahishya	22	M
2	Chhutar	40	Tili	29	M
3	Munda	32	Sabar	40	M
4	Lodha	27	Kayastha	55	M
5	Lodha	28	Kayastha	55	M
6	Paundra	15	Paundra	60	M
7	Mahishya	14	Mahishya	50	M
8	"	18	"	42	M
9	"	16	"	25	M
10	"	14	"	40	M
11	"	23	"	56	M
12	"	24	"	60	F
13	"	25	"	50	M
14	"	20	"	36	M
15	"	30	Brahman	59	M
16	"	25	"	57	M
17	"	30	"	60	M
18	Paundra	20	Paundra	44	F

In the above table, Gopal Patra aged 22, Mahishya by caste, has established ceremonial-daughter relationship with Gadu,

CARPENTER-Chhutar woman who used to come to his rice-mill regularly. Gopal addresses her by name. She also addresses Gopal as father. Basana Dasi, aged 40, a CARPENTER-Chhutar, suffered from a serious illness at one time. Sudhir Chandra Guria helped her in many ways then, and she was ultimately cured. After that Sudhir established ceremonial-daughter relationship with her. He also presents new cloths and some vegetables grown in his garden to her, from time to time. Brojendra Guha, a High School teacher of Narayan-garh, is living there for about twelve years. Two Lodha women regularly come to his house and receive help from him. Guha accepted them as his ceremonial-daughters. He presents them with new cloths and sweets from time to time.

This form of relationship is not necessarily associated with a formal ceremony.

Ceremonial Sister

Only one case of this type has been found, in which Bhabatosh Dobe, a Brahman, has established ceremonial-sister relationship with Khandi Das, a Mahishya woman. This relationship has not been solemnized formally. About 9 years ago they had somehow developed brother-sister relationship. After that Dobe presents her with sweets annually, and invites her to his own home on occasions and festivities like marriage, first rice-eating ceremony of a child, etc.

Ceremonial Brother

The total number of ceremonial-brother relationship, recorded is 7. Table 7 below gives an account of the same.

TABLE 7
Ceremonial Brother

Sl. No.	Brother		Brother		Sex
	Caste	Age	Caste	Age	
1	Lodha	25	Lodha	22	M
2	"	30	"	32	M
3	"	21	Munda	26	M
4	Mahishya	42	Brahman	44	M
5	Munda	26	Bagdi	28	M
6	Sadgop	17	Napit	25	M
7	Kayastha	19	Raju	22	M

Brojen Kotal has ceremonially established brother relationship with Gati Digar, both belonging to the Lodha community. They look very much alike in physical appearance. They also used to work together in many places. Ten years ago, they exchanged waist-cords and wooden bead-necklaces at a fair and presented sweets to each other's family. After that Brojen is addressed as *Dā dā*, i. e. elder brother by Gati. Durgapada Acharya, an ASTROLOGER-Grahabipra has forged ceremonial-brother relationship with one Gostha Behari Majhi, a Mahishya. They have exchanged not only wooden bead-necklaces and waist-cords, but also presented new cloths and other articles to each other.

Ceremonial Son-in-law

This is a very peculiar form of relationship, as the person desirous of entering into that relationship has himself to approach a man for acceptance. When this relationship is established, the wife of the 'son-in-law' is considered to be the 'daughter' of the 'father-in-law'.

TABLE 8

Ceremonial Son-in-law

Sl. No.	Son-in-law		Father-in-law	
	Caste	Age	Caste	Age
1	Brahman	63	Namashudra	75
2	Bagdi	58	Brahman	63
3	Brahman	59	Tanti	70
4	Mahishya	50	Tili	60
5	Karanga	25	Mahishya	60

Pramatha Nath Misar, Brahman, is a physician. As a result of service and devotion, he has earned popularity and has become a familiar figure. About 14 years ago, he was accepted as ceremonial-son-in-law by Gopal Mandal of Narayangarh who is Namashudra by caste. Gopal Mandal presents Pramatha Babu with new cloths, sweets, etc. once every year, and invites him to all festivals and ceremonies

taking place in his family. Sitanath De, aged 60, has established ceremonial-son-in-law relationship with Taru Pal, of village Tarakban, aged 50. Both of them are businessmen. They go together to market for buying and selling. In this way a relationship has gradually developed between them. They formally invite one another on all festive occasions.

Ceremonial Father-in-law

Three cases of ceremonial 'father-in-law' relationship have been found during the study.

TABLE 9

Ceremonial Father-in-law

Sl. No.	Father-in-law		Son-in-law	
	Caste	Age	Caste	Age
1	Mahishya	60	Mahishya	36
2	Tili	60	Muslim	35
3	Brahman	60	Kayastha	45

Sitanath, aged 60, OILMAN-Tili by caste, used to play cards regularly with Sekh Mujish, a Muslim. After a few years, this intimacy led to the establishment of a sort of relationship after which Sk. Mujish invited Sitanath to his own house to a dinner, where Sitanath cooked for himself. Later on, Sk. Mujish presented him with a piece of new cloth. Both the parties now invite each other in their family festivals. Nabadwip Guria, aged 68, belonging to the OILMAN-Tili caste, has established sister's-son relationship with Upendra Pattanayak, SCRIBE-Karan by caste. Upendra Babu addresses Nabadwip Guria, as 'maternal uncle'. Formal presentation is exchanged by both parties on ceremonial occasions.

Durga Debi, a Brahman woman, aged 38, has established 'mother's-mother' relationship with Lakshmi Debi, another Brahman woman of Khalinagera. Once Durga went to Khalinagera where her relatives stay. There, intimacy developed

between her and the old lady, and from that time, she addressed her as 'Ā i M ā' or D i d i M ā, i.e. mother's mother. Durga's husband invites her in all family functions and presents her with sweets and new cloths. Lakshmi also does the same. Another man named Gunadhar Maiti, Mahishya by caste, has established 'brother's daughter' relationship with Khandi Dasi, a Mahishya woman of village Handla. Khandi Dasi addresses Gunadhar as K ā k ā, i.e. father's younger brother, and invites him to all family functions.

Pattern of Behaviour among Relations

Just after establishment of relationship of any of the types mentioned above, the persons involved behave with each other in the traditional manner expected of actual relations. Presents of new cloth, sweets, vegetables, etc., are exchanged regularly, and formal invitations are sent on festive occasions. One's 'friend's' children are looked upon as one's own children. Children of two 'friends' look upon one another as 'brothers' and 'sisters'.

Formal pollution is observed in the case of death of a ceremonial 'father' or 'mother', but not in any other case, as was stated by the informants. But actual cases of observance of death pollution were not noticed during the study.

Analysis

The total number of castes and communities involved in the relationships stated above, is as follows.

Brahman, ASTROLGER-Grahabipra or Acharya, SCRIBE-Kayastha, or Karan, Mahishya, BARBER-Napit, Vaishnav, GOLDSMITH-Kamila, Suvarnabanik, Gandhabanik, Sadgop, WEAVER-Tanti, OILMAN-Tili, MILKMAN-Goala, BLACKSMITH-Kamar, Paundra, Bagra Kashatriya or Bagdi, CARPENTER-Chhutar, WASHERMAN-Rajak, Raju, Namashudra, Hāri, Mahato, Karangā, Kheiri, Lodha, Bhumij, Bathuri, Santal, Munda, Kakmara and Muslim. Various forms of relationships have been established among these groups as illustrated before.

Let us consider the case of Brahman, for instance, in inter-caste relations. In ceremonial friendships, it has been seen that Brahmans account for 18 cases, as specified below.

Brahman with Brahman	1
„ Kayastha	4
„ Vaishnava	3
„ Oilman-Tili	4
„ Weaver-Tanti	3
„ Sadgop	1
„ Hāṛi	1
„ Munda	1
	<hr/>
	18

Establishment of such relationship makes inter-caste relations more cordial. Just after establishment of ceremonial friendship, visits and return visits are made by the persons involved, with formal presentations of sweets and new pieces of cloth. Though Brahmans do not take cooked rice in the house of people of inferior castes as a rule, but in practice we find that they sometimes take meals in the same row in social invitations with people of other castes. Untouchables who are neglected or looked upon with condescension are treated by higher castes as friends, as soon as such friendship or some ceremonial relations is established. In the case of friendship between Kedar Nath Ghorai and a Kakmara named Rakhai Chandra Das, it was observed that the Kakmara was presented with new cloths. He is invited and entertained every year with rich and palatable dishes. After meals, his dishes are removed by someone in Kedar Babu's family, instead of by the Kakmara himself.

Thus through such cordial bonds of friendship develop inter-caste relations, which contributes towards the growth of social solidarity.

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A NOTE ON SOMATOLOGY OF THE CHENCHU

PABITRA GUPTA

ARABINDA BASU

Introduction

WHILE excavating the megalithic skeletons from Nagarjunakonda, an archaeological site of Andhra, the present writers had the privilege of visiting a few Chenchu P e n t a s (settlements) in Palnad taluq of Guntur district during January to April 1960. The Chenchu are still living in the hunting and food-gathering stage. Their main concentration is in the hills of Kurnool and Guntur districts of Andhra. Somatometric measurements and morphological observations could be taken only on 15 adult male individuals in spite of earnest efforts to collect more data, as it was extremely difficult to get hold of adult individuals who go out in the forests during day time in quest of food, honey, games, etc. Measurements were taken by the first author while somatoscopy was done by the second. Martin's technique of measurement was followed, as learnt from Drs E. C. Büchi and A. K. Mitra, the students of Schlaginhaufen and Mollison respectively. A set of Hermann, Richenboch and Son's anthropometric instruments and a Schultz's parallelometer were used for measurements. Excepting for the average values published by Thurston (1909, for three characters only) on 40 individuals and Guha (1935) on 23 individuals, there are no other somatometric data on this primitive tribe. In 1931 census their population was 10,342 souls and in 1941 census it was 12,868. Racially they are Australoid (Guha, 1935).

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Metric data and indices :

In Table 1 figures for 17 absolute measurements and 7 indices with their statistical constants are given.

TABLE 1

Statistical Constants

Characters	Range	Mean \pm S. E.	S. D. \pm S. E.	C. V. \pm S. E.
Stature	1758-1578	1654.47 \pm 15.04	58.22 \pm 10.62	3.52 \pm 0.64
Sitting Height	907-713	810.14 \pm 12.6 ¹	47.19 \pm 8.92	5.82 \pm 1.10
Auricular Height	127-113	121.57 \pm 1.22	4.73 \pm 0.86	3.89 \pm 0.71
Max. Head Length	193-173	184.13 \pm 1.18	4.56 \pm 0.83	2.48 \pm 0.45
Max. Head Breadth	145-131	138.93 \pm 0.91	3.51 \pm 0.64	2.53 \pm 0.46
Min. Frontal Br.	105-92	100.73 \pm 1.13	4.37 \pm 0.80	4.34 \pm 0.79
Max. Bizy. Breadth	140-122	131.13 \pm 1.33	5.15 \pm 1.33	3.93 \pm 0.72
Bigonial Breadth	108-85	98.80 \pm 1.77	6.86 \pm 1.77	0.69 \pm 0.13
Nasal Height	55-44	49.60 \pm 0.67	2.58 \pm 0.47	0.52 \pm 0.09
Nasal Breadth	40-33	36.53 \pm 0.45	2.12 \pm 0.61	0.58 \pm 0.10
Nasal Depth	20-15	18.60 \pm 0.39	1.50 \pm 0.27	8.05 \pm 1.47
Upper Facial Height	70-56	64.43 \pm 0.91	3.39 \pm 0.64	0.58 \pm 0.10
Morphological Total				
Facial Height	119-95	111.57 \pm 1.34	5.19 \pm 0.95	4.65 \pm 0.85
Inter-Orbital Br.	37-30	32.93 \pm 0.65	2.52 \pm 0.46	7.64 \pm 1.39
Ext. Bipapebral Br.	97-81	86.73 \pm 1.13	4.36 \pm 0.80	5.03 \pm 0.92
Horizontal Circum. of the Head	577-511	540.27 \pm 4.28	16.57 \pm 3.02	3.07 \pm 0.56
Transverse Arc	355-310	328.47 \pm 1.86	7.21 \pm 1.32	2.20 \pm 0.40
Indices				
Cephalic	80.92-70.47	75.50 \pm 0.67	2.60 \pm 0.47	3.44 \pm 0.63
Length-Height	71.19-62.09	66.04 \pm 0.63	2.45 \pm 0.45	3.71 \pm 0.68
Breadth-Height	91.91-82.14	87.50 \pm 0.70	2.70 \pm 0.49	3.08 \pm 0.56
Morphological				
Facial (Total)	90.40-71.43	85.17 \pm 1.16	4.48 \pm 0.82	5.26 \pm 0.96
Jugo-Frontal	80.15-73.57	76.83 \pm 0.55	2.14 \pm 0.39	0.28 \pm 0.05
Jugo-Mandibular	80.77-67.19	75.31 \pm 0.99	3.85 \pm 0.70	5.11 \pm 0.93
Nasal	79.55-66.00	73.75 \pm 1.07	4.13 \pm 0.75	0.56 \pm 0.10

Considering the smallness of sample size, 5% confidence limits of the means are calculated on some important characters and indices according to the method of Fisher's Fiducial Interval (1933). In 95% cases means are expected to lie within the limits given in Table 2.

TABLE 2

5% Confidence Limits of the Means

Characters	Means	Upper limits	Lower limits
Stature	1654.47	1686.73	1622.21
Auricular Ht.	121.57	124.19	118.95
Max. Hd. Lth.	184.13	186.66	181.60
Max. Hd. Br.	138.93	140.88	136.98
Max. Biz. Br.	131.13	133.98	128.28
Bigo. Br.	98.80	102.60	95.00
Nasal Ht.	49.60	51.04	48.16
Nasal Br.	36.53	37.50	35.56
Upper Facial Ht.	64.43	66.40	62.46
Morphological			
(Total) Facial Ht.	111.57	114.44	108.70
Indices			
Length-Breadth	75.50	76.94	74.06
Length-Height	66.04	67.39	64.69
Breadth-Height	87.50	89.00	86.00
Nasal	73.75	76.05	71.45
Total Facial	85.17	87.66	82.68
Zygo-Frontal	76.83	78.01	75.65
Zygo-Mandibular	75.31	77.43	73.19

Data Classified :

TABLE 3

Stature

Classes	Percentage
Short (1500-1599)	20.00
Below medium (1600-1639)	26.67
Medium (1640-1669)	13.33
Above medium (1670-1699)	13.33
Tall (1700-1799)	26.67

TABLE 4

Sitting Height

Classes	Percentage
Low (750-799)	35.72
Below medium (800-849)	50.00
Medium (850-899)	7.14
Above medium (900-949)	7.14

TABLE 5

Auricular Height

Classes	Percentage
Low (110-117)	26.67
Medium (118-125)	46.67
High (126-136)	26.67

TABLE 6

Maximum Head Length

Classes	Percentage
Short (170-177)	13.33
Medium (178-185)	46.67
Long (186-193)	40.00

TABLE 7

Maximum Head Breadth

Classes	Percentage
Extremely narrow (127-132)	6.67
Very narrow (133-138)	40.00
Narrow (139-144)	46.67
Below medium (145-150)	6.67

TABLE 8

Minimum Frontal Breadth

Classes	Percentage
Narrow (X-94)	6.67
Below medium (95-99)	26.67
Medium (100-104)	53.33
Above medium (105-109)	6.67
Broad (110-X)	6.67

TABLE 9

Maximum Bizygomatic Breadth	
Classes	Percentage
Very narrow (X-127)	20.00
Narrow (128-135)	60.00
Medium (136-143)	20.00

TABLE 10

Morphological Facial Height	
Classes	Percentage
Very low (X-111)	26.67
Low (112-117)	73.33

TABLE 11

Cephalic Index	
Classes	Percentage
Dolichocephal (X-75.9)	53.33
Mesocephal (76.0-80.9)	46.67

TABLE 12

Length-Auricular Height Index	
Classes	Percentage
Orthocephal (57.7-62.5)	6.67
Hypsicephal (62.6-X)	93.33

TABLE 13

Breadth-Auricular Height Index	
Classes	Percentage
Metriocephal (79.0-84.9)	20.00
Akrocephal (85.0-X)	80.00

TABLE 14

Morphological Facial Index	
Classes	Percentage
Hypereuryprosop (X-78.9)	6.67
Euryprosop (79.0-83.9)	20.00
Mesoprosop (84.0-87.9)	53.33
Leptoprosop (88.0-92.9)	20.00

TABLE 15

Jugo-Frontal Index	
Classes	Percentage
Narrow (70.00-74.9)	20.00
Medium (75.0-79.9)	60.00
Broad (80.00-84.9)	20.00

TABLE 16

Jugo-Mandibular Index	
Classes	Percentage
Very narrow (X-69.9)	13.33
Narrow (70.0-74.9)	33.34
Medium (75.0-79.9)	40.00
Broad (80.00-84.9)	13.33

TABLE 17

Nasal Index

Classes	Percentage
Leptorrhine (55.0-69.9)	20.00
Mesorrhine (70.0-84.9)	80.00

Analysis :

Stature (Table 3) : The Chenchu, we measured, are *medium* in stature, the average being 1654.47 ± 15.04 mm. Of the 15 individuals 20% are *short*, 26.67% *below medium*, 13.33% *medium* and 13.33% *above medium*, the remaining 26.67% being *tall*. Range varies between 1758 mm to 1578 mm.

Sitting Height (Table 4) : In the series 50% belong to *below medium* class, 35.72% belong to *low* class and 7.14% belong to *medium* and *above medium* class each. Mean is 810.14 ± 12.61 mm and the range of variation is 907 mm to 713 mm. Notwithstanding 26.67% *tall* class in stature, *high* class in sitting height go unrepresented, indicating long lower limb.

Auricular height (Table 5) : According to Routil's (1952) classification 46.67% are *medium* and 26.67% are *high* in head height. The remaining 26.67% are *low* headed. Mean is 121.57 ± 1.22 mm and range varies from 127 mm to 113 mm.

Max. Head length (Table 6) : According to Lebzelter and Saller's (1930) classification highest percentage (46.67%) is attained by *medium* class which is closely followed by *long* class (40%) and the remaining 13.33% belong to *short* class. Mean is 184.13 ± 1.18 mm and the range varies from 193 mm to 173 mm.

Max. Head breadth (Table 7) : Following Schlaginhaufen's (1946) division highest concentration is found in the *narrow* category (46.67%) closely followed by *very narrow* (40%), while the *extremely narrow* and *below medium* classes are equally represented by 6.67%. Mean is 138.93 ± 0.91 mm and the range varies between 145 mm and 131 mm.

Min. Frontal breadth (Table 8) : Following Schlaginhaufen's 5 mm interval classification, largest concentration (53.33%) is observed in *medium* category, the following class being *below medium* (26.67%). *Narrow*, *above medium* and *broad* classes show a frequency of 6.67% each. Mean is 100.73 ± 1.13 mm and the range is from 105 mm to 92 mm.

Max. Bizygomatic breadth (Table 9) : According to the classification of Lebzelter and Saller (Schlaginhaufen, 1946) 60% individuals fall in *narrow* class, while *very narrow* and *medium* classes show a frequency of 20% each. Mean is 131.13 ± 1.33 mm and the range is from 140 mm to 122 mm.

Morphological facial height (Table 10) : Mostly (73.33%) the Chenchu are *low* faced besides 26.67% of *very low* face following Lebzelter-Saller's (Schlaginhaufen, 1946) classification. Mean is 111.57 ± 1.34 mm, the range varying from 119 mm to 95 mm.

Cephalic index (Table 11) : They are nearly equally dolichocephalic (53.33%) and mesocephalic (46.67%). In mean value they lie nearer to the upper limit of dolichocephaly (75.50 ± 0.67), range varying from 80.92 to 70.47. The occurrence of mesocephaly is probably due to *medium* and *short* classes of head lengths.

Length-auricular height index (Table 12) : All the heads are hypsicephalic saving 6.67% which are orthocephalic. The mean is 66.04 ± 0.63 . The range varies between 71.19 and 62.09.

Breadth-auricular height index (Table 13) : Heads are high in relation to breadth in 80%, while the remainders are metriocephal. Mean is 87.50 ± 0.70 and the range varies between 91.91 to 82.14.

Morphological facial index (Table 14) : In this index 53.33% are mesoprosop and 20% leptoprosop. Of the rest 20% are euryprosop and 6.67% are hypereuryprosop. Mean is 85.17 ± 1.16 and the range varies from 90.40 to 71.43.

Jugo-frontal index (Table 15) : According to Lundborg, Linders and Saller's (Schlaginhaufen, 1946) classification 60% individuals are *medium* and the rest (40%) are equally divided into *broad* and *narrow* classes. Mean is 76.83 ± 0.55 and the range varies between 80.15 to 73.57.

Jugo-mandibular index (Table 16) : According to Schlaginhaufen's classification *medium* class represents 40% cases, closely followed by *narrow* class (33.34%). Rest is equally shared by *very narrow* and *broad* categories. Average is 75.31 ± 0.99 and the range of variation is 80.77 to 67.19.

Nasal index (Table 17) : In nose form 80% are mesorrhine, the rest being leptorrhine (20%). Average value is 73.75 ± 1.07 and the range varies from 79.55 to 66.00.

Comparison with earlier works

Thurston has published data for Stature, Cephalic index and Nasal index only, while Guha has published the averages for 26 characters. In Stature, Guha's data (1649 mm) compares well with the present series (1654 mm) while Thurston's average shows considerably a lower value (1625 mm). In Cephalic index, however, the present series (75.50) compares more favourably with Thurston (74.30) than that of Guha (72.89), which is 2.6 units less. It is due to Guha's lesser average for maximum head breadth (134.83). In Nasal index, the present series (73.75) varies considerably from both Thurston's (81.90) and Guha's (81.38) data, the difference with the latter is due to smaller figure for nose breadth in the present series. In Morphological Facial index Guha's series (85.26) coincides with the present (85.17). Length-height index of Guha (65.11) and the present series (66.04) are nearly of equal values ; whereas Breadth-height index of Guha (89.46) is nearly 2 units higher than the present data (87.50), due to his lesser average for head breadth.

In general, however, Guha's series is well comparable with the present one.

Morphological observations :

TABLE 18

Skin colour		Eye colour	
Forehead	Frequency	Colour	Frequency
Dark reddish brown	13	Clear Brown	3
Dark brown	2	Brown	3
		Dark brown	4
		Deep dark and black	
		brown	5

Hair form		Forehead	
Form	Frequency	Height	Frequency
Broad wavy	11	Low	4
Flat wavy	2	Medium	10
Deep wavy	2	High	1
Supra orbital ridge		Slope	Frequency
		Vertical	10
		Slightly inclined	4
		Retreating	1
Frequency			
Prominent	5		
Medium	4		
Sub-medium	5		
Absent	1		
Lips		Nose	
Thickness		Nasal bridge	Frequency
		Straight	14
		Slightly concave	1
		Nasion depression	
Thin	1	Shallow	14
Medium	11	Medium	1
Thick	3		
Chin		Prognathism	
Frequency		Alveolar	Frequency
		Absent	10
		Slight	5
Negative	11		
Neutral	1		
Positive	3		
Face			
Shape		Frequency	
Oval		8	
Squarish		3	
Long oval		4	

Analysis :

Skin : The colour varies from *dark reddish brown* to *dark brown*, the majority being *dark reddish brown*. Skin colour was determined with the help of von Luschan's Skin Colour Chart.

Eyes : The colour of the iris is mostly *dark brown*, *deep dark* and *black brown* as judged by Martin-Schultz's Scale.

Hair : The hair is almost uniformly dark brown. *Broad wavy* form of hair occurs in highest frequency. *Flat* and *deep*

wavy form occurs in equal proportion. Hair colour was observed without reference to any chart.

Forehead : Of the fifteen males observed, in ten cases the forehead is *medium* and in four it is *low*. *Vertical* forehead is predominant and in four cases the slope of the forehead is *slightly inclined*.

Nose : The nasal profile does not show considerable variation, the *straight* nasal bridge and *shallow* depression occurs in fourteen out of fifteen individuals.

Lips : The lips are not everted, but in *thickness* it is medium in eleven out of fifteen males.

Prognathism : Complete absence of prognathism was observed in ten individuals, and five individuals has slight degree of alveolar prognathism.

Chin : The chin was found to be *negative* in eleven and *positive* in three.

Face : In eight individuals the shape of the face is *oval*, while in four it is *long oval* and in three *squarish*.

Note :

Finger prints on two male Chenchu were collected, which yielded the following results :

(1)	Right	1 2 3 4 5	(2)	Right	1 2 3 4 5
		L ^u A L ^u L ^u L ^u			W W L ^u L ^u L ^u
	Left	W L ^r L ^u W L ^u		Left	W W L ^u W L ^u

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Front View

Typical Chenchu Male

Profile View



WHEN WAS AGRICULTURE INTRODUCED IN INDIA ?

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THE question posed above is intriguing and very difficult to answer. The evidence may be archaeological, traditional or literary. We give below what the classical writers wrote two thousand years ago. We take them at their face value, because the knowledge which is necessary to evaluate them is very limited on our part.

Arrian or Arrianus was born about 90 A. D. He died at an advanced age in the reign of Marcus Aurelius, Emperor from 161 to 180 A. D. In his *Indica**, he says :

‘The Indian tribes, Megasthenes tells us, number in all 118. x x x He tells us further that the Indians were in old times nomadic, like those Scythians who did not till the soil, but roamed about in their wagons, as the seasons varied, from one part of Scythia to another, neither dwelling in towns nor worshipping in temples ; and that the Indians likewise had neither towns nor temples of the gods, but were so barbarous that they wore the skins of such wild animals as they could kill, and subsisted on the bark of trees ; that these dress were called in Indian speech *tala*, and that there grew on them, as there grows at the top of the palm trees, a fruit resembling balls of wool ; that they subsisted also on such wild animals as they could catch, eating the flesh raw,—before, at least, the coming of Dionysus into India. Dionysus, however, when he came and had conquered the people, founded cities, and gave laws to these cities, and introduced the use of wine among

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*The quotations are from Majumdar, R. C. : The Classical Accounts of India, Calcutta, 1960.

the Indians, as he had done among the Greeks, and taught them to sow the land, himself supplying the seeds for the purpose,—either because Triptolemos, when he was sent by Demeter to sow all the earth, did not reach these parts, or this must have been some Dionysus who came to India before Triptolemos and gave the people the seeds of cultivated plants. It is also said that Dionysus first yoked oxen to the plough, and made many of the Indians husbandmen instead of nomads, and furnished them with the implements of agriculture; and that the Indians worship the other gods, and Dionysus himself in particular, with cymbals and drums, because he so taught them; and that he also taught them the Satyric dance, or, as the Greeks call it, the *Kordax*; and that he instructed the Indians to let their hair grow in honour of the god, and to wear the turban; and that he taught them to anoint themselves with unguents, so that even up to the time of Alexander the Indians were marshalled for battle to the sound of cymbals and drums' (sec. vii).

Dionysus when leaving India appointed one of his followers king. And 'when a failure of heirs occurred in the royal house the Indians elected their sovereigns on the principle of merit; Heracles, however, who is currently reported to have *come as a stranger* into the country, is said to have been in reality a native of India. This Heracles is held in especial honour by the Sourasenoi, an Indian tribe who possess two large cities, Methora and Cleisobora, and through whose country flows a navigable river called the Iobares. But the dress which this Heracles wore, Megasthenes tells us, resembled that of the Theban Heracles, as the Indians themselves admit. It is further said that he had a very numerous progeny of male children born to him in India (for, like his Theban namesake, he married many wives), but that he had only one daughter. The name of this child was Pandaia, and the land in which she was born, and with the sovereignty of which Heracles entrusted her, was called after her name, Pandaia, * * * * *' (sec. viii).

'Now in that part of the country where the daughter of Heracles reigned as queen, it is said that the women when

seven years old are of marriageable age, and that the men live at most forty years. * * * * *

‘If the age at which the women there are marriageable is correctly stated, this is quite consistent, it seems to me, with what is said of the men’s age,—that those who live longest die at forty ; for men who come so much sooner to old age, and with old age to death, must of course flower into full manhood as much earlier as their life ends earlier. It follows hence that men of thirty would there be in their green old age, and young man would at twenty be past puberty, while the stage of full puberty would be reached about fifteen. And, quite compatibly with this, the women might be marriageable at the age of seven. And why not, when Megasthenes declares that the very fruits of the country ripen faster than fruits elsewhere, and decay faster ?

‘From the time of Dionysus to Sandracottus the Indians counted 153 kings and a period of 6042 years, but among these a republic was thrice established * * and another to 300 years, and another to 120 years. The Indians also tell us that Dionysus was earlier than Heracles by fifteen generations’ (sec. ix).

Phylegon of Tralles in Asia Minor, a Greek writer who flourished in the second century A. D. writes in his book *On Marvels* :

‘Megasthenes says that the women of the Pandian realm bear children when they are six years of age.’

Now a few words about the boundaries of India as given by the classical writers. Some regarded the Indus as the western limit of India proper (see Arrian, *Indika*, sec. 2).

Pliny summarizes the position thus :

‘Many writers, however, do not give the river Indus as the western boundary of India, but include within it four satrapies the Gedrosi, Arachotae, Arii, Paropamisadae, making the river Cophes its furthest limit ; though others prefer to consider all these as belonging to the Arii.

‘Many writers further include in India even the city Nysa and Mount Merus, sacred to Father Bacchus, whence the

origin of the fable that he sprang from the thigh of Jupiter' Book VI (23).

'The regions beyond the river Indus on the west are inhabited, up to the river Cophen, by two Indian tribes, the Astakenoi and the Assakenoi, who are not men of great stature like the Indians on the other side of the Indus, nor so brave, nor yet so swarthy as most Indians. They were in old times subject to the Assyrians, then after a period of Median rule submitted to the Persians, and paid tribute to Cyrus the son of Cambyses the tribute from their land which Cyrus had imposed. The Nysaioi, however, are not an Indian race, but descendants of those who came into India with Dionysus,—perhaps not only of those Greeks who had been disabled for service in the course of the wars which Diouyas waged against the Indians, but perhaps also of the natives of the country whom Dionysus, with their own consent, had settled along with the Greeks. The district in which he planted this colony he named Nysaia, after Mount Nysa, and the city itself Nysa. But the mountain close by the city, and on the lower slopes of which it is built, is designated Meros, from the accident which befell the god immediately after his birth. These stories about Dionysus are of course but fictions of the poets, and we leave them to the learned among the Greeks or barbarians to explain as they may' (Arrian, *Indika*, sec. I).

Mount Nysa, the traditional birth-place of Dionysus, is somewhere in the hilly regions of the old North-West Frontier Province. Apollonius of Tyana in Cappadocia was born about 4 years before the Christian era. He is said to have visited India. He writes :

'The rock Aornus, though at no great distance from Nysa Darius says they did not visit as it was somewhat out of their way'.

Diodorus surnamed Siculus, i.e., the Sicilian, was a contemporary of Julius Cæsar and Augustus. He himself tells us that he travelled in Egypt between 60 and 57 B.C. and mentions events happening in 21 B.C. He devoted thirty years to

write his *Bibliotheca Historica* in forty books. It was a universal history from the earliest mythological ages down to the beginning of Caesar's Gallic wars. Of the forty books, ten have come down to us entire. Of the rest only fragments have been preserved. He writes :

38. 'It is said that India, being of enormous size when taken as a whole, is peopled by races both numerous and diverse, of which not even one was originally of foreign descent, but all were evidently indigenous ; and moreover that India neither received a colony from abroad, nor sent out a colony to any other nation. The legends further inform us that in primitive times the inhabitants subsisted on such fruits as the earth yielded spontaneously, and were clothed with the skins of the beasts found in the country, as was the case with the Greeks ; and that, in like manner *as with them*, the arts and other appliances which improve human life were gradually invented, Necessity herself teaching them to an animal at once docile and furnished not only with hands ready to second all his efforts, but also with reason and a keen intelligence.

'The men of greatest learning among the Indians tell certain legends, of which it may be proper to give a brief summary. They relate that in the most primitive times, when the people of the country were still living in clan villages, Dionysus made his appearance coming from the regions lying to the west, and at the head of a considerable army. He overran the whole of India, as there was no great city capable of resisting his arms. The heat, however, having become excessive, and the soldiers of Dionysus being afflicted with a pestilence, the leader, who was remarkable for his sagacity, carried his troops away from the plains up to the hills. There the army, recruited by the cool breezes and the waters that flowed fresh from the springs, recovered from sickness. The place among the mountains where Dionysus restored his troops to health was called Meros ; from which circumstance, no doubt, the Greeks have transmitted to posterity the legend concerning the god, that Dionysus was bred in *his father's thigh*. Having after this turned his attention

to the storing of the fruits, he communicated the secret to the Indians, and taught them the way to make wine, as well as other arts conducive to human well-being. He became the founder of notable cities by gathering the villages together in well-situated regions, while he also showed the people how to worship the deity, and introduced laws and courts of justice. Having thus achieved altogether many great and noble works, he was regarded as a deity and gained immortal honours. It is related also of him that he led about with his army a great host of women, and employed, in marshalling his troops for battle, drums and cymbals, as the trumpet had not in his days been invented; and that after reigning over the whole of India for two and fifty years he died of old age, while his sons succeeding to the government, transmitted the sceptre in unbroken succession to their posterity. At last, after many generations had come and gone, the sovereignty, it is said, was dissolved, and democratic governments were set up in the cities.

'39. Such, then, are the traditions regarding Dionysus and his descendants current among the Indians who inhabit the hill-country. They further assert that Heracles was born among them.' Then follows the story of Heracles and his numerous sons and the only daughter whom he made a queen.

Gaius Plinius Secundus (c. 23 A. D.—79 A. D.), better known as the Elder Pliny, was a Roman scholar and the author of *Naturalis historic* (the Natural History) which consists of 37 books. It deals with geography, ethnography, anthropology, physiology, zoology and various other subjects. He writes:

'Their kings from Father Bacchus [i.e. Dionysus] to Alexander the Great are reckoned at 153 over a space of 6451 years and three months' {Book VI. c. 17(21)}.

The average length of the reign of kings, 42 years seems to be high. From the death of Babar in 1530 to the death of Bahadur Shah II in 1862, 11 generations passed; and the length of a generation is 30 years. From Humayun to Aurangzebe, there was lineal succession; and the average

length of a reign is 35.4 years ; but these five generations are rather exceptional.

We, in India, are not familiar with the classical writers. So we have quoted the above passages extensively.

The time of Dionysus, whether a mythical figure or not, is according to the Elder Pliny 6451 years before Alexander the Great i.e. $6451 + 327$ B. C. = 6778 B. C. According to Arrian, $6042 + 300 + 120 = 6462$ years before Sandracottus. Sandracottus is Chandragupta, the Mauryan Emperor who reigned from 322 B. C. to 298 B. C. So Dionysus' time is $6462 + 322 = 6784$ A. C.

Deducting 25 years for each generation from the time of Dionysus, Hercules' time is $6784 - 25 \times 15 = 6409$ B. C.

We have shown in *Man in India*, 1959, p. 258 et. seq. that Early Man was a short-lived race, the mean age being about 15.5 years and that the proportion of those who attained the age of 50 and over was among :

Neanderthal Man	(20) - 0 %
Paleolithique	„ (102) - 1 %
Mesolithique	„ (65) - 3.0 %
<hr/>	
Early Man	(187) 1.5 %

And the reproductive age-period was between 12-26 as against 15-43 of modern man. Even now a child is born to a mother aged 10 ; so a mother at 7 or 8 is not an impossibility among early men. We need not doubt the veracity of the classical writers—what they were recording may not be contemporary facts, but Indian traditions regarding them. It is likely that some Early Man was contemporaneous with men who in India were intelligent enough to observe and record their behaviour and practices.

It also gives us a date, a specific point of time when pressing wine, agriculture by harnessing oxen to the plough was introduced into India (6784 B. C.). This date is very much earlier than the Mohenjodaro or Harappa civilization ;

long before even the traditional date of the Mahabharata War (3102 B. C.).

Gordon Childe in *What happened in history* tells us about the agricultural revolution which transformed palaeolithic savagery into neolithic barbarism. It took place about 7000 years ago. 'Jarmo in the uplands of Kurdistan stands nearer that beginning. Here in a little cluster of quite commodious *pise'* houses, covering three acres, lived a group of early farmers. The cereals they cultivated are only just distinguishable from wild grasses. At first no pottery was made at Jarmo though stone vessels were used. This village is dated by radiocarbon to 4700 ± 350 B.C.' (p 52).

Jarmo is not older than 5100 B. C. The Indian date is some 1700 years earlier than Jarmo.

MISCELLANEOUS NOTES

A SHORT NOTE ON THE GANJUS OF MIDNAPUR

Ganjus are an unrecorded community in West Bengal whom the successive censuses have always left out. They are mainly distributed in the jungle areas of Mayurbhanj, Orissa and Nayagram and adjoining Police Stations in Midnapur district. There are patches of forest-clad, hilly tracts in this region which are generally inaccessible in any season of the year and the Ganjus, with other communities mainly of tribal stock, live there in blissful surroundings. Some Ganjus are reported to have migrated to different areas of 24-Parganas, specially in Shambhunagar and the adjoining villages under P. S. Sandeshkhali to work as agricultural labourers. Information about the Ganjus has been collected from a village called Jarighati under Nayagram, Midnapur. This is a border village at the junction of the territorial limits of West Bengal and Orissa. Altogether 23 Ganju families live here. The population based on sex and age groups is as follows :

No. of families			Male	Female	Total	
23			78	59	137	
Age Group						
0.5	6.10	11-15	16-20	21-25	26-30	31-up
M.F.	M.F.	M.F.	M.F.	M. F.	M. F.	M.F.
10-8	17-8	10-2	3-6	9-6	6-10	23-19 = 137

In this particular village there are three Bagal families who live with them. Their main occupation is preparation of flattened rice locally called *c h i ṛ ā*.

There is no definite plan in the lay-out of this village. But each house is provided with a little kitchen garden for growing vegetable. They are principally agriculturists, but the land possessed by them in most cases is very small. The size varies from 0.5 acre to 6 acres, the majority having 1 to 2.

acres of land per family. They have rectangular type of huts with mud-build walls on four sides and a thatched roof of straw. The poorer people have one or two apartments to serve all domestic purposes, whereas those who are a little well-off have 3 to 4 rooms for dwelling purposes and a separate cowshed and a kitchen. The doors and windows of these huts, though very small in size, are provided with shutters.

The principal occupation of the Ganjus is agricultural labour. Both men and women work in the fields, the lighter work being allotted to women. Women also collect firewoods from nearby jungles. During the summer months, they collect seeds of *K u s u m* (*Carthamus tinctorius*) or *M a h u a* (*Bassia latifolia*) for extraction of oil. Some of the women collect leaves of *S a l* (*Shorea robusta*) trees which are later stitched together and sold in the market and used as commodity containers in the shops.

For agricultural purposes they have the plough, spade, hoes of different varieties and other implements for operational requirements which are generally purchased from the market. For fishing they have very small nets and tiny basket-traps with valves which are used in the paddy-fields during the rainy season.

Rice is the staple food of the Ganjus. They also produce a variety of vegetables and rarely buy anything except pulses and spices. The majority of them have cow, goat and fowl.

Village Organization : The Ganjus have their own caste council which is known as *D e s h*. Each grown-up male member of the society is also a member of the Council. The Headman of the Council is called *P r a d h a n*. Generally, the Pradhan has to help the zemindar in the collection of rent. The Council deals with different socio-religious problems, breaches of clan taboos and the like. The Council fixes the rate of subscription of a family during village festivals and makes arrangements for its proper celebration. It also deals with cases of petty quarrels, adultery and elopement and in such cases the offender is given a deterrent punishment and even ostracized sometimes.

Previously there was a bailiff or village messenger selected by the people. But now the post has been abolished. The watchman of the Union Board performs the duties of the messenger. The post of the Headman is not hereditary. A good man with outstanding personality or with other qualities is elected as a Headman when the old Pradhan is either dead or becomes invalid or resigns.

The Ganjus have their own priest for performing ceremonies. Recently they are organising Sitala puja, the worship of which requires the services of a Brahmin. The post of the religious Headman is however hereditary.

Social Organisation : The Gaujus claim their status to be higher than that of the Santals and equal to that of the Mahatos living in this region. They have several totemistic clans as recorded below :

Clan-name	Token
Kachhua or Kachhap	Tortoise
Neer	A herb
Kharga	A bird

The clan members show respect to the totem and they refrain from eating, killing and injuring the chosen symbol. Marriage within the same clan is strictly prohibited. Most of the families in this village are of joint or extended type in which several married brothers live in perfect amity jointly with their children. If the father is living, he is naturally given the pride place of the head of the family. In the absence of the father, the elder brother becomes the head. But simple monogamous families are not rare among them.

The age of marriage varies from 15 to 25 in the case of the men and 12 to 15 in the case of women. Bride price is common and the bridegroom has to pay a negotiated amount in cash. Some clothes for the wife's parents have also to be given by the bridegroom or his relations. Negotiation for marriage is usually conducted by the relatives of the bride and the groom or some senior members of the village. This is generally a protracted affair requiring visits and countervisits

by both the parties when feasts are arranged to entertain them. When the bride price is settled it is handed over on a suitable day (auspicious according to the local almanac) to the bride's father who receives it in a brass plate on which a little cowdung, rice and d u r b a grass are placed.

Polygyny is not unknown but in this village nobody has done so as yet. Divorce is not normally permitted but it can be had with the sanction of the Village Council. Sometimes love marriages also occur. But cases of marriage outside the group were not noticed at all.

Religion : The Ganjus believe in different deities and spirits, some of whom are thought to be malevolent whilst the rest are benevolent. They propitiate or appease these spirits or deities for having plenty of crops and health and prosperity. B h a g w a n or the Supreme Being is regarded with reverence but about his manifestations they have only a vague idea. B a r a m or G a r a m is the village tutelary deity who is supposed to reside in a big Kusum tree. He is worshipped several times in a year. They believe that if he becomes angry due to neglect in his worship, wild animals will visit the village or sudden diseases will break out. For his propitiation they offer many articles of food like plantains or different varieties of edible roots with a little sugar. As a part of the propitiation it is also customary to sacrifice a red fowl. Sometimes, red goats are also sacrificed. The village priest or the D e u r i performs the propitiation and at the same time sacrifices goat with a sharp instrument which is kept with him. For this communal worship all the villagers contribute according to the direction of the Headman. Articles of offering are distributed equally among all the families and the Deuri takes, in addition, the head of the sacrificed animal.

To the Goddess Sitala they also offer a black he-goat and pumpkin. Worship of Sitala is associated with the worship of Y u g i n i, another deity of equivalent rank, who is regarded as the maid of Sitala. Sitala controls epidemic diseases and so her appeasement is necessary for staving off such diseases.

They propitiate some other spirits like *D a i n i B h u t s*, *C h u r k i n*, the ghost of the pregnant woman who met with an accidental death and *K h u d r a*. These are considered to be extremely mischievous. They are accredited with the inherent proneness for mischief making.

There are magicians to counteract the activities of these spirits. Sudden attack of some typical diseases are attributed to the mischief done by these spirits.

Festival : They have different kinds of festivals like *K a r a m*, *B a n d a n a* and a number of others. They also observe the Rathajatra Festival. In all these festivals dancing, singing and feasting are the main features.

Death and funeral : Cremation is the general rule. Ten days after the death are thought to be days of defilement after which a formal ceremony for the break of the pollution takes place. Barbers and washermen do not serve these people ordinarily or even in such exigencies.

Conclusion : The Ganjus are now trying to receive proper education. One of the Ganju boys is now reading in a college. There is a primary school in the village and a keen interest exists amongst the villagers for education. It is hoped therefore that given proper facilities in educational and economic spheres, there will be a time not far from now when they would catch up in status and advancement with other civilized and progressive communities.

15.1.60

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PROPORTION OF UTTAR-RARHI KAYASTHAS AMONG KAYASTHAS OF BENGAL—ADDENUM.

In the April-June 1960 issue we published a note under the above caption. Since then we have come across some interesting facts. In an *Account of the District of Bhagalpur in 1810-11*, Francis Buchanon writes :

‘About 1500 houses are of Bengalese extroction, mostly of

Uttar-Rarhi, and spread over most parts of the district. Here they are mostly of the Sakti Sect' (p. 227).

The district of Bhagalpur then included the district of Monghyr, and the sub-division of Godda now in the Santhal Parganas was then included in Bhagalpur. Buchanan Hamilton estimates the area to the 8224 sq. miles. He says—'By tracing the bounderies, so far as could ascertain them on the Map of Major Rennel, I find that it contains about 8224 square British miles; but I have to regret much, that the extent cannot in this manner be ascertained with much precision' (p. 2).

The present areas are :

Bhagalpur	4,226 sq. miles
Monghyr	3,927 „
	<hr/>
	8,153 „
Godda sub-division	850 „
	<hr/>
	9,003 „

However much Buchanan Hamilton may be in error in calculating or estimating the area of the then Bhagalpur, the error cannot be of the order of 9.3 per cent. The present districts include areas which were not parts of Bhagalpore in 1810-11.

For our purpose, we take Buchanan Hamilton's Bhagalpore to equal the present districts of Bhagalpore and Monghyr.

The number of Uttar-Rarhi Kayastha families in the several districts (between 1901 and 1911) is :

Bhagalpur	675
Monghyr	206
	<hr/>
	881
Santhal Parganas	187
	<hr/>
	1,068

We exclude the figure for the Santhal Parganas as most of the Uttar-Rarhi Kayasthas are concentrated in Jamtara nad

other areas, contiguous to the present districts of Burdwan and Birbhum, and which formed part of Birbhum before 1855.

The number of Uttar-Rarhi Kayastha families has decreased from 1500 in 1810-11 to 881 in 1906-11—a decrease of over 41 per cent. And this decrease has occurred in spite of some normal immigration of well-known families during the century and separation of former joint-families. To what then is the decrease due ?

There may be some error in Buchanon Hamilton's figure ; but he is very careful in recording the number of families. He has recorded even 'five families of Kayeths, who call themselves Etanak' (p. 227). The census of Uttar-Rarhi Kayasthas in 1906-11, though a private one, was taken with great care, especially in the Bhagalpore area as one of its sponsors, the late Mahasaya Tarak Nath Ghosh, the leader of the Uttar-Rarhi Kayasthas of Bhagalpore, spent lavishly for its success.

The population has increased during the century. 'I reckon the Muhammadan population at 23 per cent of the whole, or at about 4,58,000' (p. 208). From this, the total population is calculated to be 19,91,000. Buchanon Hamilton's Statistical Tables have not been reprinted in the Bihar and Orissa Research Society's edition. The present (1931) population of this region is :

Bhagalpur	22,34,632
Monghyr	22,87,154
Godda sub-division	3,87,801
	<hr/>
	49,09,587

The population has increased by 146·6% during 120 years or by 112 per cent during the century. Normally the Uttar-Rarhi Kayasthas should have increased.

Emigration of families from this area may be the cause of the decrease. Even if we assume that all those who are at Patna or at Calcutta have migrated from Buchanon Hamilton's Bhagalpore—a very big assumption—the total will not exceed

932 families. Including even the Santhal Parganas figures the total would be 1119.

Further, such large scale emigration from a small community within recent times must have left local traditions of emigration behind. But such traditions are lacking. It is not our case that no families have emigrated; in the normal course of economic and social causes there must have been some emigration. What we want to stress is that there is very little evidence of large scale emigration.

So we are forced to conclude that many of the families have died out. The rate of decrease is 6.8 per cent decade. The community being scattered over a large area, and the rate being comparatively small, it may not have attracted attention, excepting perhaps among the relations.

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BOOK REVIEWS

Panchopāsanā By Jitendranath Bandyopadhyay, Calcutta Pp. XXIV + 408 + 5 plates. K. L. Mukhopadhyay, 6/1A, Banchharam Akrur Lane, Calcutta 12.

The rise and evolution of various cults and sects in India is one of the most important aspects of the growth of Indian civilization. This question has been attended to by various scholars like H. H. Wilson, Akshay Kumar Datta, Jogendranath Bhattacharya and others. But the originality of Dr Bandyopadhyay's book lies in the fact that unlike previous authors, he has tried to supplement literary evidence with a large amount of epigraphical and iconological evidence. This has not only given his chapters Ganapatya, Vaishnava, Saiva, Sakta and Saura sects a depth in the time perspective, but the critical treatment which is everywhere in evidence has given it a quality which will serve to maintain the reputation of the book for long years to come. One of the best chapters in the book is the 14th, in which the author deals with the interrelation between different icons and thus between the various sects dealt with separately in previous chapters.

It has been in the fitness of things that this original contribution has first appeared in the Bengali language. We only hope that an English version would be made available for a larger circle of readers. Prof Bandyopadhyay's earlier work entitled *Development of Hindu Iconography* brought him deserved reputation in the scholarly world. The present book will serve to maintain that reputation.

From the anthropologist or social historian's point of view one would perhaps have been more satisfied if the rise or proliferation of the various cults dealt with in the book could have been correlated with the impact which Brahminical society experienced in relation to many of the indigenous cultures present in the land. But perhaps Dr Bandyopadhyay has, in general, avoided that side of the question on account of paucity of data. Anthropologists in general have been more eager to describe tribal cultures as isolates rather than indicate how they have

reacted to, or sometimes even contributed elements into the total civilization of India. So, if this omission has been a fault, Dr Bandyopadhyay is less responsible for it than others.

Nirmal Kumar Bose

Anthropology in Administration By H. G. Barnett, Row, Peterson and Company, New York, 1956, Price \$ 5 Net.

The association of anthropologist, with the administration of non-self-governing areas and of preliterate societies in different parts of the world has long been recognised. But the various roles which they may play were nowhere so lucidly analysed as in this book. The fluency of Professor Barnett's writing provides easy reading, keeps interest aroused and casts the most technical portions in almost narrative form. The book will be of considerable interest and value to the student of anthropology and to the student of public administration.

As early as 1900 Fowler drew attention to the fact that anthropological knowledge can be harnessed for the happiness and prosperity of millions of people living in the colonies. In India, Sir Herbert Risley after completing the census work in 1901 was appointed the Director of Ethnography. Enlightened governments have seldom questioned the value of ethnological data for purposes of administration. But they are not agreed about the kind of information required or the best means for obtaining it. Consequently, various approaches and devices have been employed by different governments and by the same government at different times.

Sometimes administrators depend upon native tribal advisers for eliciting information. This might save money as well as time. In India, this was tried by the early British authorities. Indian officers, both Hindu and Muslim placed their knowledge of local custom and law at the disposal of their British supervisors. In some situations, colonial servicemen became experts on customs of particular native groups. Officials who have resided long in an area are in close touch with the population. It is to such officers like Hutton and Mills that we owe the numerous monographs on the Naga tribes. It is true that only a few of the officers could be capable of this achievement, as to combine administrative load with a scholarly hobby is well nigh difficult. Before being sent

out, colonial service people in Belgium, France, England and Holland were given systematic orientation about the language, manners and customs of the people they were destined to govern. The Devonshire scheme for British colonial service aims at developing the officer's full effectiveness and efficiency. In other words, he functions as an administrator—anthropologist.

At times, for the solution of certain problems certain Research Councils are subsidized by governments. Some governments provide funds for anthropological research without regard to its practical significance. In India, the Anthropological Survey of India was started in 1946 by the Government of India for independent research. Since 1954, a number of tribal Research Institutes have been opened in different States having a large tribal population to be able to offer solutions to administrative problems in tribal areas, if referred to them.

If there are problems of an urgent nature, commissions or study teams may be appointed with definite terms of reference. In our own country, the committee for special Multipurpose Tribal Blocks under the Chairmanship of Dr Verrier Elwin has just presented its report. Sometimes the problems of some areas may be so many and diverse that it is expedient to keep anthropological advisers or consultants. The NEFA administration has a research wing of its own under Dr Elwin who is the Tribal Adviser as well.

Professor Barnett analyses the reasons as to why anthropologists and administrators do not get along together. The administrator regards the anthropologist as living in an ivory tower. The latter's scientific detachment and time consuming processes exhaust his patience. Some anthropologists in their quest for pure research have looked down upon applied anthropology. Anthropologist working in the applied field are not prepared to accept their seclusion from the scientific fraternity. Their main emphasis is upon the study of a society as an integrated whole and on using the comparative method. They develop love and sympathy for their subjects and it is liable that their description tends to overflow the sentimentalism. Some administrators think that anthropologists want to preserve primitive life. This is, of course, not true because change is inevitable. The anthropologists simply make a plea for slow change so that people get time to

adjust and there may be no sudden social disorganization. They have a habitual distrust of the administrator as the latter are regarded to be blind to these considerations. Another reason why anthropology and administration do not go on well together is because the anthropologist is not prepared to accept responsibility for the decisions to which he contributes. So many governments think that an officer with some understanding and enthusiasm can do well with some formal training in anthropology.

The most effective use of the services of anthropologists in administration was made in the United States Trust Territory in the Pacific. Professor Barnett was associated with it as a Staff Anthropologist. He has described in detail the role of anthropologists vis-a-vis the administration. In each of the districts an anthropologist was appointed to advise the District Commissioner. Broadly speaking, his duties are to organize and conduct research in the field. He was also to promote good working relations with the native institutions, exercising a knowledge of the native language, interpreting official regulations orders and programmes to the tribals and serving as an interpreter between native and administrative officials. They had also to carry out a survey to explore the social, economic, political, religious and educational conditions on the islands and to determine the inhabitants' needs for assistance in their struggle for readjustment. They had to advise on the implementation of developmental projects and on the solution of problems arising from such implementation. They were also required to evaluate the success of particular developmental programmes.

In India too, the experience gained in the Pacific may be taken advantage of. The anthropologist scores as a bridge between the tribal and his rulers. He explains the customs, actions and attitudes of the tribals to the administration and vice versa. With his experience and study of conditions in other parts of the world he can, to a reasonable degree, forecast the effect of introducing a particular innovation in a certain place. He can also give advice on the implementation of a programme, i.e. to recommend the means to accomplish a particular objective.

Through the Community Development Programme, the benign hand of the welfare state is reaching the remotest tribal hamlet. In three years time the entire country would be covered by the

programme. Nearly two crores of people living in the vastnesses of remote forest, hills and valleys, rendered inaccessible by difficulties of communication would engulfed by the tide of development. They include 212 distinct groups speaking different languages brought up in diverse cultures and widely varying geographical environment. Their needs and problems are not only different from that of non-tribal areas but also differ amongst themselves. Due to their comparative isolation, low technological development and overall tradition orientation, they present complex problems of socio-cultural adjustment. Community Development workers in most of these areas are generally non-tribals who find it difficult to understand them and communication of ideas forms an extremely difficult problem. In the special multipurpose tribal blocks, Rs 15,000 has been provided for survey and research in the schematic budget. Uptil now this money has been utilised only in two cases, both in Bihar, by getting detailed cultural surveys through competent field workers, anthropologists and sociologists. There may be many a cultural factor hindering the progress of a particular scheme, people's participation may be tardy, there may be a shortfall in the expenditure, all these point to the need for systematic research. The Elwin Committee has underlined the need of such work, given a critical appraisal of the community development work in tribal areas and made specific recommendations, some of which have been accepted by the Government.

In India, the Government has accepted the principle of the Devonshire scheme and insists on training development personnel serving in tribal areas. Individual anthropologists and research institutes have also been involved in the programme.

The book is commended for close study by top level administrators as well as by the professional anthropologists who will find in it a clarification of most of their doubts regarding their respective roles and the limitations inherent in their positions.

Sachchidananda

Caste and Kinship in Central India : A Village and its Region ;
Adrian C. Mayer, Routledge and Kegan Paul, London, 1960, Sh. 35,
Pp. 295 + viii, plates 16.

Recent trends in the study of Caste emphasises its structural character. Adrian Mayer's book under review throws a flood of light on the structural network of Caste. Mayer examines the

village, studies it in relation to caste and kinship, and formulates the concept of 'region'. But his contribution is not here. It is in his distinction between the internal and external aspects of caste—a caste and its sub-castes.

An individual's role in his village is 'largely as a representative of his caste group, acting towards other caste groups as if they were internally undifferentiated. But in his relations with people of other villages his main role is rather as a member of the endogamous sub-caste, within the caste, that is, as a member of caste which is internally differentiated'. This difference in rôles of an individual reflects two affiliations—one to the village and the other to the sub-caste. This distinction has been excellently brought out and carried through the book.

Many anthropologists and sociologists have distinguished between caste and its sub-castes; but Mayer's distinction is fundamental and a practical one. He treats 'caste' and 'sub-caste' as two separate concepts; unlike Ketker, who believes 'caste' and 'sub-caste' as comparative in significance. Caste has relevance only when a person is concerned with people outside his caste, and sub-caste, when he acts towards people within the caste. Until recently Caste was studied either in general perspective or with reference to a village, but Mayer's *Caste and Kinship in Central India* has opened up a new line of fruitful enquiry: the study of 'sub-caste' and 'region'.

Mayer analyses three kinds of membership within a 'sub-caste'. One, characterised by the kindred of co-operation, those with whom a person has close agnatic and affinal ties; two, the kindred of recognition, those with whom he can trace kinship and make affinal relationship; and the third, those who are rest of the sub-caste with whom affinal ties are possible but not common. This network of kinship plotted territorially makes up, what Mayer calls, the 'region'. However, varying as these kin ties are, the limits of a region can hardly remain stable. D. N. Majumdar's *Thakurs in Caste and Communications in an Indian Village* and Mayer's *Rajputs* in this book, whose kin ties could be charted as a well-defined region, appear to be exceptions. In any case, Mayer's emphasis on the study of caste/sub-caste beyond the boundaries of a village is rightly placed. This is imperative both in theoretical and operational study of Caste.

The *Caste and Kinship in Central India*, is based on a micro-cosmic enquiry carried out in a multi-caste village, Ramkheri in Rajasthan. The author describes the village and its castes in the first two parts of the book ; discusses therein intercaste relations in great detail, and examines village as a structural unity and structural extension. In the third part he delineates the constitution of the castes. The internal structure of the castes is worked out on the basis of marriage, kinship and social control. The book is tight with facts and illustrations, as also with, analysis.

Many will differ from Mayer, however, on methodological ground. He studies a village and talks of the region ; and while his analysis of sub-caste on the basis of kinship is illuminating, the data on kinship are inadequate. But everyone will agree that his is a signal contribution to the study of caste/sub-caste as it operates in a multi-caste village and its region. Mayer has done it admirably for which this book will remain an important contribution to Indian Sociology and Social Anthropology.

D. P. Sinha

Bulletin of the Bihar Tribal Research Institute, Volume 1, Number 1, Ranchi, Price Rs. 5.00.

The present Bulletin is the first publication of the Bihar Tribal Research Institute founded at Ranchi in 1954 for carrying out 'researches on right lines into the customs, manners, languages and the culture of tribals of Bihar'. This issue contains a record of two research projects of the Institute ; one on 'the comparative study of intelligence of the tribals and non-tribals' by Purnima Chaudhuri, and the other on the socio-economic organization of the Sauria Pahariyas by B. B. Verma and Harimohan.

There has been a good deal of misconception prevailing among the laity that the tribals have less intelligence than the non-tribals. The paper by Chaudhuri provides refreshing data, with statistical details, from the tribal and non-tribal school going children of Ranchi, which go to explode the prevalent misconception. Verma's paper on social organization is well documented but his classification of the families is overlapping (page 58). The treatment of the economic organization by Harimohan gives neat picture of the economic-cycle of the Pahariyas who are shifting cultivators, and whose economy revolves round forest.

Besides these the Bulletin includes papers on race and nationality by B. S. Guha, the Munda theory of legal punishment by Dorothy

Spencer, the Jarawa problem by Lidio Cipriani, the Aborigines, their Nutrition and Welfare by P. N. Sen Gupta and Comparative Notes on Abor-Miri Daffa Terms by G. Morgenstierne. While each of these papers has its own merit, Dorothy Spencer's analysis of Munda Law with reference to the principle of retribution is illuminating.

This Bulletin, with wide range of papers, is a welcome addition to Indian Journals in Anthropology.

D. P. Sinha

In the Company of Man : *Edited By Joseph B. Casagrande, Harper and Brothers, New York, 1960, Pp. xvi + 540, Price \$ 6.50.*

In the Company of Man, which includes twenty portraits by distinguished anthropologists, is a lively and useful document for everyone interested in the science of man. Though it is not a direct contribution to the science, as such, it tintly mirrors the anthropologist in their laboratory of Man and Culture.

Anthropologists in their field invariably sort out some importants. A few come very close to him, and sometimes one of them stands out prominently. Joseph Casagrande, the Editor of this volume, has done a significant job, in drawing together the portraits of chief informants of seasoned field scientists like the late Robert Lowie and Clyde Kluckhohn and distinguished field workers as Margaret Mead, Raymond Firth, Corn Du Bois, David G. Mandelbaum, along with many others.

Each of the twenty portraits is a lively narration. They are drawn from roughly the whole world—Pacific Islands, Australia, India, Africa, South and North America. The biographies include both of men and women, persons in authority and without it; *shamans* and priests, and those who have been instrumental in bringing about changes in their culture.

Raymond Firth's Pa Fenuatara, the Tikopean chief is a traditional; while Mandelbaum's Sulli, Kota elder has been one, instrumental in changing the ways of his culture. Kluckhohn's Navaho Politician Bill however gives an impression of a subtle diplomat always with conflicts and compromise. Cora Du Bois' Ali presents a very interesting case of structural relationship between persons rooted in different cultural mores. Lowie's document is very much of a touching biography discriminating Crow interpreter. All these portraits differ in emphasis and character. Yet, they reflect a common theme of interaction with aliens drawn

together by circumstances. They tell us about Men in their cultures.

Joseph Casagrande deserves a good deal of thanks in this stimulating and profitable volume; and for the hard editing that a volume as this demands.

D. P. Sinha.

Exploring the Ways of Mankind : By Walter Goldschmidt, Published by Holt, Rinehart and Winston, Inc., New York, 1960, Price \$ 6.50.

Exploring the Ways of Mankind is a compiled book of selected piece of works of distinguished authors in the field of Anthropology as well as of other branches of social science. The presentation of the ways of mankind is in a proper dramatical sequence which provides a wonderful meaning in the understanding of culture and specialities as a woole. This book is really an exploration in understanding the ways of mankind when a number of theoretical concepts are applied to the understanding of culture, language, technology, education, family, status, role, personality value, religion, ethics and arts etc.

This book has been written specially from the scholastic point of view and those who really want to understand the ways of mankind from the standpoint of anthropology can no doubt explode the mystries and explore what a man and his culture is in the comparative frame work of nation.

This book may also appeal to the general readers who aspire to seek understanding and knowledge.

K. Kerketta

La Kāśikā-Vṛtti (Adhyāya I, pāda 1)—1^{re} Partie Pp. 124, traduite et commentée par Yutaka Ojihara et Louis Renou. (E'cole française d'Extreme-Orient. Paris 1960).

Professor Louis Renou with the able assistance of a young Japanese scholar, Professor Yutaka Ojihara, have produced this learned textual commentary on one of the important and difficult sections of Paninian grammar theory : sc. the 75 first sūtras of Adhyāya I, pāda 1,

This extremely detailed and painstaking annotation of a difficult text, the Kāśikā-vṛtti, the classical commentary on the Aṣṭādhyāyī, can be fully appreciated only by specialists.

The present volume covers only sūtras 1-44 : a second volume will deal with sūtras 45-75,

F. E.

Bulletin De L'Ecole Francaise D'Extreme-Orient—Tome L Fasc. 1 :
Pp. 1-230 ; Paris, 1960.

This yearly bulletin—the 50th number of the French School of the Far-East may be of particular interest to Indian readers by reason of a fairly long article (p. 37-116 with an additional 30 full-page photographic illustrations) by Mr M. Bénisti, 'A Study of the Stūpa in Ancient India'. The author investigates the origin, forms, meaning of the stūpa as an edifice, and the religious worship connected with it. In a second part, he considers the various kinds of representations of the stūpa that became so commonly part of Buddhist decorative art. One can observe a whole evolutions in the shape and size of the stūpa both as a religious edifice and as a decorative motif in sculpture. In this connection, one may note that the stūpa came to represent the Buddha, and vice versa, statues of the Buddha, standing or seated, often replaced the stūpa.

Other articles in this volume take us to Indonesia, Viet-Nam, Bali.....Among the book reviews there are several that deal with Angkor and Cambodia. One feels right through the volume the solid, self-assured scholarship that goes into the making of these volumes of 'L' E'cole francaise d'Extreme-Orient'. F. E.

L' Arche'ologie Du Delta Du Me'kong, par Louis Malleret—Tome II :
La Civilisation matériell d'Oc-e'o. (Paris, 1960 ; E'cole francaise d'Extreme-Orient Vol. XLIII.)

In 1959 Mr L. Malleret published the 1st Part of his study of the archaeological expeditions and excavations in the delta of the river Mekong in French Indo-China. The present Part II consists of two volume : one containing the text with a number of illustrations, and the other being a collection of 112 photographs of archaeological finds.

There is abundant evidence of ancient Indian colonisation in the Mekong delta : among the objects discovered in that region there are statues of Buddha, of Vishnu, of Siva...etc. The material unearthed is of great variety : a few objects are in wood or bone ; others in stone, in baked clay, in metal and bronze. Some are ornaments, others are domestic utensils, or tools.

Our author makes a careful study of several hundreds of these objects, of the sites where they were found, of the civilization they reveal. However, he has to acknowledge that with only this relatively meager archaeological material in hand it is very difficult

to come to any definite conclusions regarding the protohistory of this part of Indo-China. How deep did the Indian influence go ? Was there any lasting mutual influence between the aboriginal inhabitants and the settlers ? Did they mix or keep apart ? Did the latter subject the former ? All questions that cannot be answered with any degree of certainty.

F. E.

Aspects of Caste in South India, Ceylon and North-West Pakistan, No. 2, Edited By E. R. Leach, Cambridge University Press, 1960—Price 18 s. 6 d. net, \$ 3.50.

This is the second of a series of occasional papers in Social Anthropology published by the Cambridge University Press for the department of Archaeology and Anthropology of the University of Cambridge. The theme of this series is the caste system. The four contributing authors of this series have given the picture of caste in a lucid and understandable way on the basis of their field investigation into different regions—down from North-Western Pakistan to Jaffna lying in Ceylon in the South. All the authors have presented the caste structure and system as conceived by them from their own point of view. However, the authors have taken the caste system of India in general as a unit for evaluating the caste system into different ecological environment. The caste system which is said to be within the boundary traits of endogamy, hierarchy and occupational specialisation in a orthodox, and ideal viewpoint does not only find its explanation but an improvement over the concept with critical analysis proves the worth of this series.

K. Kerketta

An Introduction to Anthropology, By Ralph L. Beals & Harry Hoijer, Second Edition, Macmillan Company, New York, 1959, with Illustrations Maps & Charts, Price \$ 6.90 Net.

It is a very good text book on General Anthropology written under the joint authorship of Ralph L. Beals, Professor of the University of California and Prof Harry Hoijer of the University of Los Angeles. The first seven chapters have been devoted to Physical Anthropology discussing the origin and development of Man, Racial criteria, evolution and genetics both in terms of the genetic approach of contemporary anthropologists as also according to older views on racial criteria. From chapter eight to chapter twenty-two Culture in its diverse aspects have been studied which provides an all round view on Cultural Anthro-

pology and ground work for further study. The functional view is upheld in the scheme of Cultural Anthropology rather than the Culture history approach.

The Chapters from one to seven have been expanded to some extent in this new edition incorporating new data. The seventh chapter which had been 'Race Problem' in the previous edition has been completely re-done and named 'Race, Evolution and Genetics'. A new Chapter 'Space, Time and Culture' has been added in this edition as chapter nine. J. Sen

Man in the Primitive World, By E. Adamson Hoebel, Second Edition, 1958, McGraw-Hill Book Company, INC., With numerous illustrations, p. 677, Price—\$ 9.00 net.

Dr Adamson Hoebel is a Professor and the Head of the Department of Anthropology in the University of Minnesota and also the President of the American Anthropological Association presents us with a very good introduction to Anthropology giving in broad outlines a general picture of the various aspects of the study of Man in the light of the latest important findings.

The thirty-five chapter in which experts have been drawn from a wide range of authors of the present century and the past have been grouped into four parts under the following headings: introduction, ancient man and pre-historic culture, race and culture and primitive culture. The fourth part has been arranged into eight sections on the topics of culture and society, subsistence and crafts, marriage and kin, status and role, property and politics, social control, religion and magic and the dynamics of culture. A rich bibliography and glossary completes the volume. The author has carefully placed before the reader illustrative factual data with their scientific interpretations which has made the book valuable for students and research workers as well as the lay man.

The various additions and alterations in the second edition has been an improvement on the first. Part II has been recast and enlarged, the subject of race has been dealt with in the light of genetic approach, minor changes have been introduced in the chapter on kinship; there has been some expansion in the chapter on religion and a chapter on language and culture has enriched section on the dynamics of culture. At the end of each chapter a brief summary as well as selected readings on the subject have been incorporated which makes it helpful to the students. J. Sen